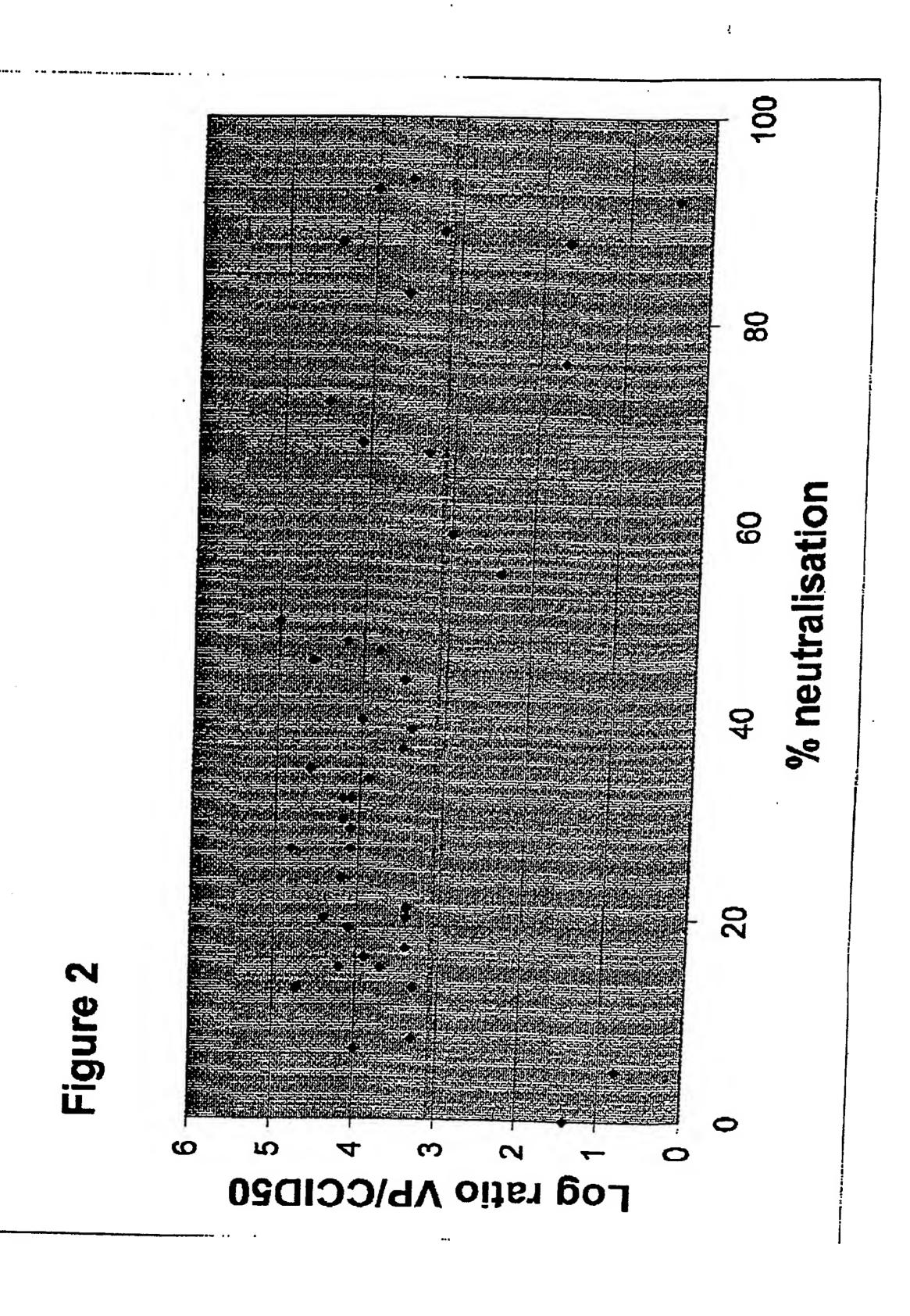
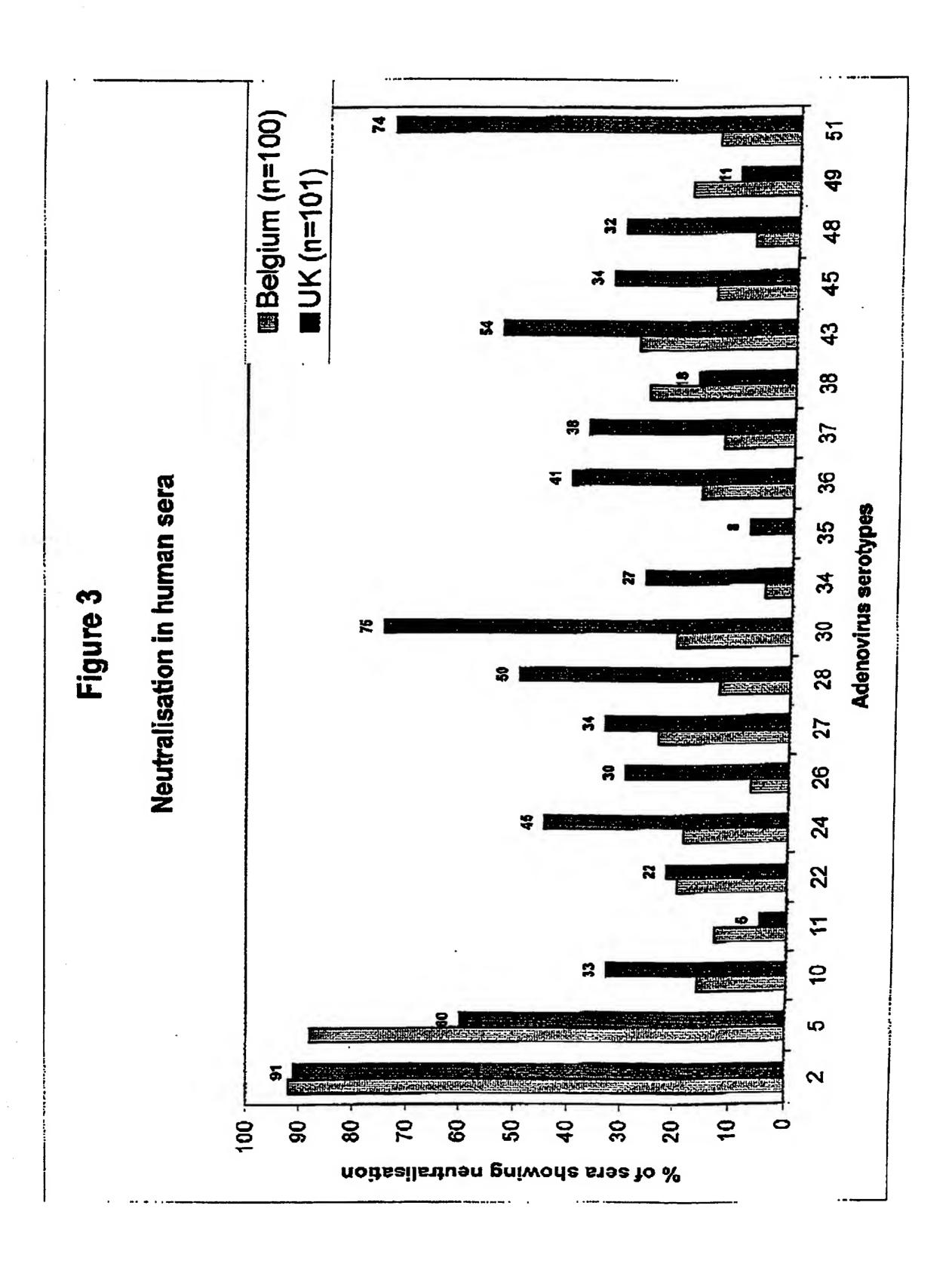
eutralising capacity for human adenovirus (n=100) 37 35 3 Adeno serotypes 29 Figure 1: % of human sera with n % of sera showing neutralisation





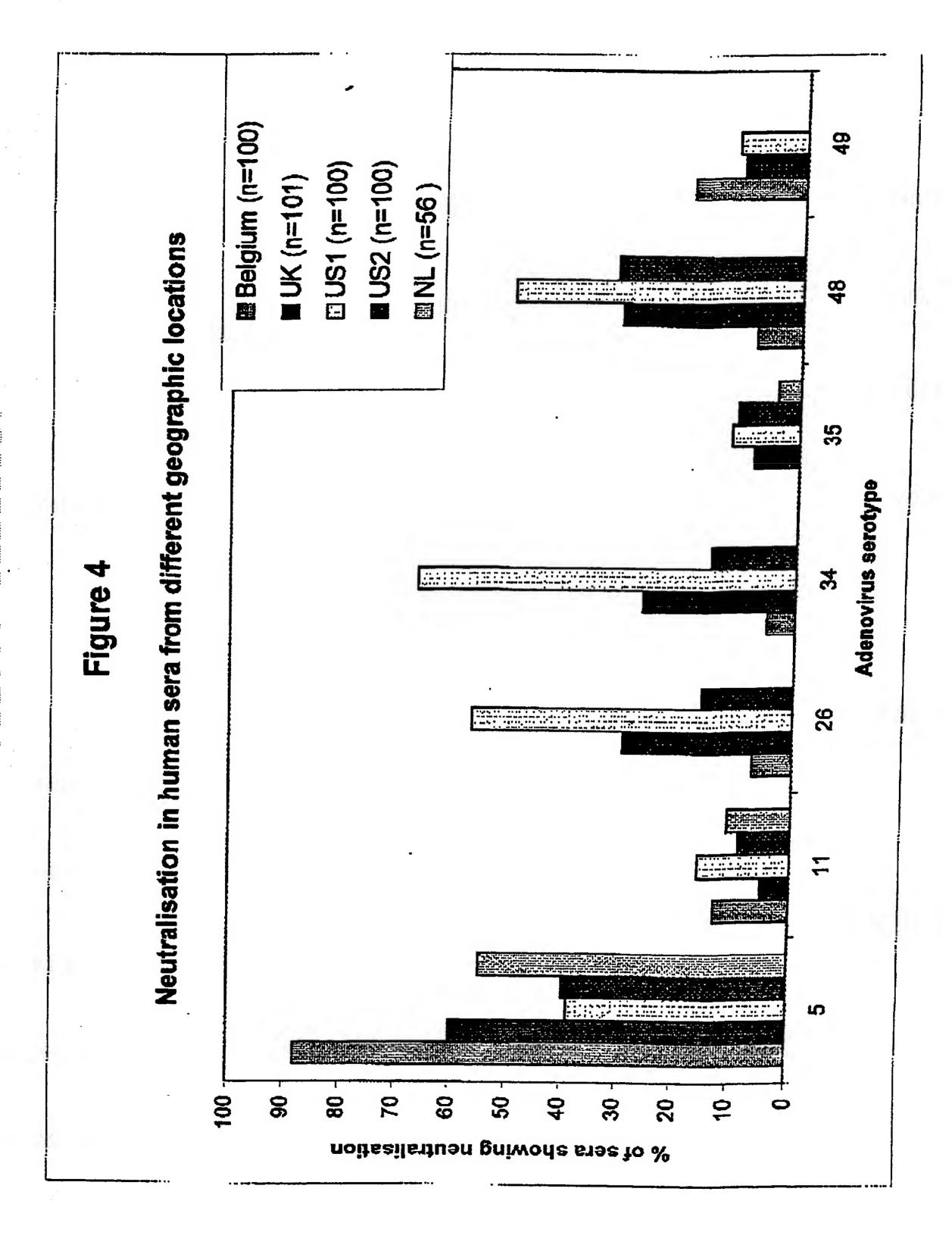


Figure 5: Total sequence of Ad35.

			_			
1 CATCATCAA	T AATATACCT	T ATAGATGGAA	A TOGTGCCAAT	ATGTAAATGA	GGTGATTTTA	AAAAGTGTGG
71 GCCGTGTGG				GCGGCGCGGC	CGTGGGAAAA	TGACGTTTTA
			. , ,		AGGCTTCTTT	
			_			TCTCACGGAA
211 CTACTTAGT	T TTECCAEGG	T ATTTAACAGE	AAATGAGGTA			
281 ATTTTCGCG	C GAAAACTGA	A TGAGGAAGTO	: TTTTTCTGAA	TAATGTGGTA	TTTATGGCAG	GGTGGAGTAT
351 TTGTTCAGG		•			CGTGTTTTTT	ACCTGAATTT
			 			
421 CCGCGTACE			•			TATACCTCAG
491 GGTTTGTGT	C AAGAGGCCAI	C TCTTGAGTGC	: CAGCGAGAAG	AGTTTTCTCC		CAGTTTAATA
561 ATAAAAAAA	T GAGAGATTT	G CGATTTCTGC	CTCAGGAAAT	AATCTCTGCT	GAGACTGGAA	ATGAAATATT
					AGCTTTTTGA	
	. .		_		• • •	
701 CTTCAGGAA	_ _				GGAAGCTGTG	AATGGCTTTT
771 TTACCGATT	C TATGCTTTTA	A GCTGCTAATG	AAGGATTAGA	ATTAGATCCG	CCTTTGGACA	CTTTCAATAC
841 TCCAGGGGT	ATTGTGGAAA	GCGGTACAGG	TGTAAGAAAA	TTACCTGATT	TGAGTTCCGT	GGACTGTGAT
					AAAGGAGCAG	TCCATGCAGA
		, , , = = , =				
981 CTGCAGCGG		' .' = = = = =	• • • • • • • • • • • • • • • • • • • •	TCAGTTGGAT	TGCCCGGAGC	TTCCTGGACA
1051 TGGCTGTAAG	TCTTGTGAAT	TTCACAGGAA	AAATACTGGA	GTAAAGGAAC	TGTTATGTTC	GCTTTGTTAT
1121 ATGAGAACGE	: ACTGCCACTT	TATTTACAGT	AAGTGTGTTT	AAGTTAAAAT	TTAAAGGAAT	ATGCTGTTTT
1191 TCACATGTAT			TTCTTATTAT	AGGTCCTGTG	TCTGATGCTG	ATGAATCACC
			TATTCAAGCA	CCTGTTCCTG	TEGACGTECE	CAAGCCCATT
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1331 CCTGTGAAGC			GCAGTGGAGA	AACTTGAGGA	CTTGTTACAG	GGTGGGGACG
1401 GACCTTTGGA	CTTGAGTACA	CGGAAACGTC	CAAGACAATA	AGTGTTCCAT	ATCCGTGTTT	ACTTAAGGTG
1471 ACGTCAATAT	' TTGTGTGAGA	GTGCAATGTA	TATAAAAATAT	GTTAACTGTT	CACTGGTTTT	TATTGCTTTT
1541 TGGGCGGGGA		•	CAGACCTGTG	TEGTTAGCTC	ATAGGAGCTG	GCTTTCATCC
				GGCAACTGTT	AGAGAGCGCT	
1611 ATGGAGGTTT			AGGAAGACTA			TCGGACGGAG
1681 TCTCCGGTTT	TTGGAGATTC	TEGTTCGCTA			TTTAGGATAA	AACAGGACTA
1751 TAAACAAGAA	TTTGAAAAGT	TGTTGGTAGA	TTGCCCAGGA	CTTTTTGAAG	CTCTTAATTT	GGGCCATCAG
1821 GTTCACTTTA	AAGAAAAGT	TTTATCAGTT	TTAGACTTTT	CAACCCCAGG	TAGAACTGCT	GCTGCTGTGG
1891 CTTTTCTTAC		GATAAATEGA	TEEEGEAGAE	TCATTTCAGC	AGGGGATACG	TTTTGGATTT
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1961 CATAGECACA			GGTTCGCAAG	ATGAGGACAA	TCTTAGGTTA	CTGGCCAGTG
2031 CAGCCTTTGG	GTGTAGCGGG	AATCCTGAGG	CATCCACCGG	TCATGCCAGC	GGTTCTGGAG	GAGGAACAGC
2101 AAGAGGACAA	CCCGAGAGCC	GGCCTGGACC	CTCCAGTGGA	GGAGGCGGAG	TAGCTGACTT	GTCTCCTGAA
2171 CTGCAACGGG	TGCTTACTGG	ATCTACGTCC	ACTGGACGG	ATAGGGGCGT	TAAGAGGGAG	AGGGCATCCA
2241 GTGGTACTGA	TGCTAGATCT	GAGTTGGCTT	TAAGTTTAAT	GAGTCGCAGA	CGTCCTGAAA	CCATTTGGTG
	CAGAAAGAGG		AGTITCTGTA	TTGCAGGAGA	AATATTCACT	•
2311 GCATGAGGTT		GAAGGGATGA	: : : :			GGAACAGGTG
2381 AAAACATGTT	GGTTGGAGCC	AGAGGATGAT	TGGGCGGTGG	CCATTAAAAA	TTATGCCAAG	ATAGETTTGA
2451 GGCCTGATAA	ACAGTATAAG	ATCAGTAGAC	GGATTAATAT	CCGGAATGCT	TGTTACATAT	CTGGAAATGG
2521 GGCTGAGGTG	GTAATAGATA	CTCAAGACAA	GACAGTTATT	AGATGCTGCA	TGATGGATAT	GTGGCCTGGA
2591 GTAGTCGGTA	TGGAAGCAGT	CACTTTTGTA	AATGTTAAGT	TTAGGGGAGA	TEGTTATAAT	GGAATAGTGT
	TACCAAACTT		GTTGTAGCTT	TTTTGGTTTC	AACAATACCT	
2661 TTATGGCCAA				· · · · · · · · · · · · · · · · · · ·		GTGTAGATGC
2731 CTGGGGACAG	GTTAGTGTAC	GGGGGTGTAG	TTTCTATGCG	TGTTGGATTG	CCACAGCTGG	CAGAACCAAG
2801 AGTCAATTGT	CTCTGAAGAA	ATGCATATTC	CAAAGATGTA	ACCTGGGCAT	TCTGAATGAA	GGCGAAGCAA
2871 GGGTCCGTCA	CTGCGCTTCT	ACAGATACTG	GATGTTTTAT	TTTAATTAAG	GGAAATGCCA	GCGTAAAGCA
2941 TAACATGATT	TGTGGTGCTT		GCCTTATCAA	ATGCTCACTT	GTGCTGGTGG	GCATTGTAAT
				· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·
3011 ATGCTGGCTA	CTGTGCATAT		CAACGCAAAA	AATGGCCTGT	TTTTGATCAC	AATGTGTTGA
3081 CCAAGTGCAC	CATGCATGCA	GGTGGGCGTA	GAGGAATGTT	TATGCCTTAC	CAGTGTAACA	TGAATCATGT
3151 GAAAGTGTTG	TTGGAACCAG	ATGCCTTTTC	CAGAATGAGC	CTAACAGGAA	TCTTTGACAT	GAACACGCAA
3221 ATCTGGAAGA	TCCTGAGGTA	TGATGATACG	AGATCGAGGG	TGCGCGCATG	CGAATGCGGA	GGCAAGCATG
		· ·	CCGAAGATCT	CAGACCGGAT	CATTTGGTTA	TTGCCCGCAC
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3431 TTTTCAGATG						GAAATECTTC
3501 TTTTAAGGGG	GGAGTCTTCA	GCCCTTATCT	GACAGGGCGT	CTCCCATCCT	GGGCAGGAGT	TEGTEAGAAT
		TGGAAGACCC				•
		•				• • • • • •
· · · · · · · · · · · · · · · · · ·		GCAGCTGCAG	-			•
3711 AATGGGTTAD						
3781 AAGTTACTTG	TCCTTTTGGC	CCAGCTGGAG	GCTTTGACCC	AACGTCTGGG	TGAACTTTCT	CAGCAGGTGG
3851 CCGAGTTGCG						
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3921 ATGAATAAAT AAACGAGCTT GTTGTTGATT TAAAATCAAG TGTTTTTATT TCATTTTTCG CGCACGGTAT 3991 GCCCTGGACC ACCGATCTCG ATCATTGAGA ACTEGGTGGA TTTTTTCCAG AATCCTATAG AGGTGGGATT 4061 GAATGTTTAG ATACATGGGC ATTAGGCCGT CTTTGGGGTG GAGATAGCTC CATTGAAGGG ATTCATGCTC 4131 CGGGGTAGTG TTGTAAATCA CCCAGTCATA ACAAGGTCGC AGTGCATGGT GTTGCACAAT ATCTTTTAGA 4201 AGTAGGCTGA TTGCCACAGA TAAGCCCTTG GTGTAGGTGT TTACAAACCG GTTGAGCTGG GAGGGGTGCA 4271 TTCGAGGTGA AATTATGTGC ATTTTGGATT GGATTTTTAA GTTGGCAATA TTGCCGCCAA GATCCCGTCT 4341 TGGGTTCATG TTATGAAGGA CTACCAAGAC GGTGTATCCG GTACATTTAG GAAATTTATC GTGCAGCTTG 4411 GATGGAAAAG CGTGGAAAAA TTTGGAGACA CCCTTGTGTC CTCCGAGATT TTCCATGCAC TCATCCATGA 4481 TAATAGCAAT GGGGCCGTGG GCAGCGGCGC GGGCAAACAC GTTCCGTGGG TCTGACACAT CATAGTTATG 4551 TTCCTGAGTT AAATCATCAT AAGCCATTTT AATGAATTTG GGGCGGAGCG TACCAGATTG GGGTATGAAT 4621 GTTCCTICGG GCCCCGGAGC ATAGTTCCCC TCACAGATTT GCATTTCCCA AGCTTTCAGT TCTGAGGGTG 4761 CAAGTTTCTG AGCAATTGAG ATTTGCCACA TCCGGTGGGG CCATAAATAA TTCCGATTAC AGGTTGCAGG 4831 TGGTAGTTTA GGGAACGCCA ACTGCCGTCT TCTCGAAGCA AGGGGGCCAC CTCGTTCATC ATTTCCCTTA 4901 CATGCATATT TICCCGCACC AAATCCATTA GGAGGCGCTC TCCTCCTAGT GATAGAAGTT CTTGTAGTGA 4971 GGAAAAGTTT TTCAGCGGTT TTAGACCGTC AGCCATGGGC ATTTTGGAAA GAGTTTGCTG CAAAAGTTCT 5041 AGTCTGTTCC ACAGTTCAGT GATGTGTTCT ATGGCATCTC GATCCAGCAG ACCTCCTCGT TTCGCGGGTT 5111 TGGACGGCTC CTGGAGTAGG GTATGAGACG ATGGGCGTCC AGCGCTGCCA GGGTTCGGTC CTTCCAGGGT 5181 CTCAGTGTTC GAGTCAGGGT TGTTTCCGTC ACAGTGAAGG GGTGTGCGCC TGCTTGGGCG CTTGCCAGGG 5251 TGCGCTTCAG ACTCATTCTG CIGGTGGAGA ACTTCTGTCG CTTGGCGCCC TGTATGTCGG CCAAGTAGCA 5321 GTTTACCATG AGTTCGTAGT TGAGCGCCTC GGCTGCGTGG CCTTTGGCGC GGAGCTTACC TTTGGAAGTT 5391 TICTTGCATA CCGGGCAGTA TAGGCATTTC AGCGCATACA GCTTGGGCGC AAGGAAAATG GATTCTGGGG 5481 AGTATGCATE EGEGEEGEAG GAGGEGEAAA CAGTTTCACA TTECACEAGE CAGGTTAAAT EEGGTTEATT 5531 GGGGTCAAAA ACAAGTTTTC CGCCATATTT TTTGATGCGT TTCTTACCTT TGGTCTCCAT AAGTTCGTGT 5601 CCTCGTTGAG TGACAAACAG GCTGTCCGTA TCTCCGTAGA CTGATTTTAC AGGCCTCTTC TCCAGTGGAG 5671 TGCCTCGGTC TTCTTCGTAC AGGAACTCTG ACCACTCTGA TACAAAGGCG CGCGTCCAGG CCAGCACAAA 5741 GGAGGCTATG TGGGAGGGGT AGCGATCGTT GTCAACCAGG GGGTCCACCT TTTCCAAAGT ATGCAAACAC 5811 ATGTCACCCT CTTCAACATC CAGGAATGTG ATTGGCTTGT AGGTGTATTT CACGTGACCT GGGGTCCCCG 5881 CTGGGGGGT ATAAAAGGGG GCGGTTCTTT GCTCTTCCTC ACTGTCTTCC GGATCGCTGT CCAGGAACGT 5951 CAGCTGTTGG GGTAGGTATT CCCTCTCGAA GGCGGGCATG ACCTCTGCAC TCAGGTTGTC AGTTTCTAAG 6021 AACGAGGAGG ATTTGATATT GACAGTGCCG GTTGAGATGC CTTTCATGAG GTTTTCGTCC ATTTGGTCAG 6091 AAAACACAAT TTTTTTATTG TCAAGTTTGG TGGCAAATGA TCCATACAGG GCGTTGGATA AAAGTTTGGC 6161 AATGGATCGC ATGGTTTGGT TCTTTTCCTT GTCCGCGCGC TCTTTGGCGG CGATGTTGAG TTGGACATAC 6231 TCGCGTGCCA GGCACTTCCA TTCGGGGAAG ATAGTTGTTA ATTCATCTGG CACGATTCTC ACTTGCCACC 6301 CTCGATTATG CAAGGTAATT AAATCCACAC TGGTGGCCAC CTCGCCTCGA AGGGGTTCAT TGGTCCAACA 6371 GAGCCTACCT CCTTTCCTAG AACAGAAAGG GGGAAGTGGG TCTAGCATAA GTTCATCGGG AGGGTCTGCA 6441 TCCATGGTAA AGATTCCCGG AAGTAAATCC TTATCAAAAT AGCTGATGGG AGTGGGGTCA TCTAAGGCCA 6511 TTTGCCATTC TCGAGCTGCC AGTGCGCGCT CATAIGGGTT AAGGGGACTG CCCCAGGGCA TGGGATGGGT 6581 GAGAGCAGAG GCATACATGC CACAGATGTC ATAGACGTAG ATGGGATCCT CAAAGATGCC TATGTAGGTT 6651 GGATAGCATC GCCCCCCTCT GATACTTGCT CGCACATAGT CATATAGTTC ATGTGATGGC GCTAGCAGCC 6721 CCGGACCCAA GTTGGTGCGA TTGGGTTTTT CTGTTCTGTA GACGATCTGG CGAAAGATGG CGTGAGAATT 6791 GGAAGAGATG GTGGGTCTTT GAAAAATGTT GAAATGGGCA TGAGGTAGAC CTACAGAGTC TCTGACAAAG 6861 TGGGCATAAG ATTCTTGAAG CTTGGTTACC AGTTCGGCGG TGACAAGTAC GTCTAGGGCG CAGTAGTCAA 6931 GTGTTTCTTG AATGATGTCA TAACCTGGTT GGTTTTTCTT TTCCCACAGT TCGCGGTTGA GAAGGTATTC 7001 TTCGCGATCC TTCCAGTACT CTTCTAGCGG AAACCCGTCT TTGTCTGCAC GGTAAGATCC TAGCATGTAG 7071 AACTGATTAA CTGCCTTGTA AGGGCAGCAG CCCTTCTCTA CGGGTAGAGA GTATGCTTGA GCAGCTTTTC 7141 GTAGCGAAGC GTGAGTAAGG GCAAAGGTGT CTCTGACCAT GACTTTGAGA AATTGGTATT TGAAGTCCAT 7211 GTCGTCACAG GCTCCCTGTT CCCAGAGTTG GAAGTCTACC CGTTTCTTGT AGGCGGGGTT GGGCAAAGCG 7281 AAAGTAACAT CATTGAAGAG AATCTTACCG GCTCTGGGCA TAAAATTGCG AGTGATGCGG AAAGGCTGTG 7351 GTACTTCCGC TCGATTGTTG ATCACCTGGG CAGCTAGGAC GATTTCGTCG AAACCGTTGA TGTTGTGTCC 7421 TACGATGTAT AATTCTATGA AACGCGGCGT GCCTCTGACG TGAGGTAGCT TACTGAGCTC ATCAAAGGTT 7491 AGGTCTGTGG GGTCAGATAA GGCGTAGTGT TCGAGAGCCC ATTCGTGCAG GTGAGGATTT GCATGTAGGA 7581 ATGATGACCA AAGATETACC GCCAGTGCTG TTTGTAACTG GTCCCGATAC TGACGAAAAT GCCGGCCAAT 7631 TGCCATTTTT TCTGGAGTGA CACAGTAGAA GGTTCTGGGG TCTTGTTGCC ATCGATCCCA CTTGAGTTTA 7701 ATGGCTAGAT CGTGGGCCAT GTTGACGAGA CGCTCTTCTC CTGAGAGTTT CATGACCAGC ATGAAAGGAA 7771 CTAGTTGTTT GCCAAAGGAT CCCATCCAGG TGTAAGTTTC CACATCGTAG GTCAGGAAGA GTCTTTCTGT 7841 GCGAGGATGA GAGCCGATCG GGAAGAACTG GATTTCCTGC CACCAGTTGG AGGATTGGCT GTTGATGTGA 7911 TGGAAGTAGA AGTTTCTGCG GCGCGCCGAG CATTCGTGTT TGTGCTTGTA CAGACGGCCG CAGTAGTCGC

7981 AGCGTTGCAC GGGTTGTATC TCGTGAATGA GCTGTACCTG GCTTCCCTTG ACGAGAAATT TCAGTGGGAA 8051 GCCGAGGCCT GGCGATTGTA TCTCGTGCTC TTCTATATTC GCTGTATCGG CCTGTTCATC TTCTGTTTCG 8121 ATGGTGGTCA TGCTGACGAG CCCCCGCGGG AGGCAAGTCC AGACCTCGGC GCGGGAGGGG CGGAGCTGAA 8191 GGACGAGAGC GCGCAGGCTG GAGCTGTCCA GAGTCCTGAG ACGCTGCGGA CTCAGGTTAG TAGGTAGGGA 8261 CAGAAGATTA ACTTGCATGA TCTTTTCCAG GGCGTGCGGG AGGTTCAGAT GGTACTTGAT TTCCACAGGT 8331 TCGTTTGTAG AGACGTCAAT GGCTTGCAGG GTTCCGTGTC CTTTGGGCGC CACTACCGTA CCTTTGTTTT 8401 TTCTTTTGAT CGGTGGTGGC TCTCTTGCTT CTTGCATGCT CAGAAGCGGT GACGGGGACG CGCGCCGGGC 8471 GGCAGCGGTT GTTCCGGACC CGGGGGCATG GCTGGTAGTG GCACGTCGGC GCCGCGCACG GGCAGGTTCT 8541 GGTATTGCGC TCTGAGAAGA CTTGCGTGCG CCACCACGCG TCGATTGACG TCTTGTATCT GACGTCTCTG 8611 GGTGAAAGCT ACCGGCCCCG TGAGCTTGAA CCTGAAAGAG AGTTCAACAG AATCAATTTC GGTATCGTTA 8681 ACGGCAGCTT GTCTCAGTAT TTCTTGTACG TCACCAGAGT TGTCCTGGTA GGCGATCTCC GCCATGAACT 8751 GCTCGATTTC TTCCTCCTGA AGATCTCCGC GACCCGCTCT TTCGACGGTG GCCGCGAGGT CATTGGAGAT 8821 ACGGCCCATG AGTTGGGAGA ATGCATTEAT GCCCGCCTCG TTCCAGACGE GGCTGTAAAC CACGGCCCCC 8891 TEGGAGTETE TTGEGEGEAT CACCACETGA GEGAGGTTAA GETECAEGTG TETGGTGAAG ACCGEATAGT 8961 TGCATAGGCG CTGAAAAAGG TAGTTGAGTG TGGTGGCAAT GTGTTCGGCG ACGAAGAAAT ACATGATCCA 9031 TEGTETEAGE GGEATTTEGE TAACATEGEE CAGAGETTEE AAGEGETECA TGGEETEGTA GAAGTEEACG 9101 GCAAAATTAA AAAACTGGGA GTTTCGCGCG GACACGGTCA ATTCCTCCTC GAGAAGACGG ATGAGTTCGG 9171 CTATGGTGGC CCGTACTTCG CGTTCGAAGG CTCCCGGGAT CTCTTCTTCC TCTTCTATCT CTTCTTCCAC 9241 TAACATCTCT TCTTCGTCTT CAGGCGGGGG CGGAGGGGGC ACGCGGCGAC GTCGACGGCG CACGGGCAAA 9311 CGGTCGATGA ATCGTTCAAT GACCTETCCG CGGCGGCGGC GCATGGTTTC AGTGACGGCG CGGCCGTTCT 9381 CGCGCGGTCG CAGAGTAAAA ACACCGCCGC GCATCTCCTT AAAGTGGTGA CTGGGAGGTT CTCCGTTTGG 9451 GAGGGAGAGG GCGCTGATTA TACATTTTAT TAATTGGCCC GTAGGGACTG CGCGCAGAGA TCTGATCGTG 9521 TCAAGATCCA CGGGATCTGA AAACCTTTCG ACGAAAGCGT CTAACCAGTC ACAGTCACAA GGTAGGCTGA 9591 GTACGGCTTC TTGTGGGCGG GGGTGGTTAT GTGTTCGGTC TGGGTCTTCT GTTTCTTCTT CATCTCGGGA 9661 AGGTGAGACG ATGCTGCTGG TGATGAAATT AAAGTAGGCA GTTCTAAGAC GGCGGATGGT GGCGAGGAGC 9731 ACCAGGTETT TGGGTECGGE TTGCTGGATA EGEAGGEGAT TGGCCATTCC CCAAGCATTA TECTGACATE 9801 TAGCAAGATC TITGTAGTAG TCTTGCATGA GCCGTTCTAC GGGCACTTCT TCCTCACCCG TTCTGCCATG 9871 CATACGTGTG AGTCCAAATC CGCGCATTGG TTGTACCAGT GCCAAGTCAG CTACGACTCT TTCGGCGAGG 9941 ATGGCTTGCT GTACTTGGGT AAGGGTGGCT TGAAAGTCAT CAAAATCCAC AAAGCGGTGG TAAGCCCCTG 10011 TATTAATGGT GTAAGCACAG TTGGCCATGA CTGACCAGTT AACTGTCTGG TGACCAGGGC GCACGAGCTC 10081 GGTGTATTTA AGGCGCGAAT AGGCGCGGGT GTCAAAGATG TAATCGTTGC AGGTGCGCAC CAGATACTGG 10151 TACCCTATAA GAAAATGCGG CGGTGGTTGG CGGTAGAGAG GCCATCGTTC TGTAGCTGGA GCGCCAGGGG 10221 CGAGGTCTTC CAACATAAGG CGGTGATAGC CGTAGATGTA CCTGGACATC CAGGTGATTC CTGCGGCGGT 10291 AGTAGAAGCC CGAGGAAACT CGCGTACGCG GTTCCAAATG TTGCGTAGCG GCATGAAGTA GTTCATTGTA 10361 GGCACGGTTT GACCAGTGAG GCGCGCGCAG TCATTGATGC TCTATAGACA CGGAGAAAAT GAAAGCGTTC 10431 AGCGACTCGA CTCCGTAGCC TGGAGGAACG TGAACGGGTT GGGTCGCGGT GTACCCCGGT TCGAGACTTG 10501 TACTCGAGCC GGCCGGAGCC GCGGCTAACG TGGTATTGGC ACTCCCGTCT CGACCCAGCC TACAAAATC 10571 CAGGATACGG AATCGAGTCG TTTTGCTGGT TTCCGAATGG CAGGGAAGTG AGTCCTATTT TTTTTTTT 10641 TTTGCCGCTC AGATGCATCC CGTGCTGCGA CAGATGCGCC CCCAACAACA GCCCCCCTCG CAGCAGCAGC 10711 AGCAGCAACC ACAAAAGGCT GTCCCTGCAA CTACTGCAAC TGCCGCCGTG AGCGGTGCGG GACAGCCCGC 10781 CTATGATCTG GACTTGGAAG AGGGCGAAGG ACTGGCACGT CTAGGTGCGC CTTCGCCCGA GCGGCATCCG 10851 CGAGTTCAAC TGAAAAAAAA TTCTCGCGAG GCGTATGTGC CCCAACAGAA CCTATTTAGA GACAGAAGCG 10921 GCGAGGAGCC GGAGGAGATG CGAGCTTCCC GCTTTAACGC GGGTCGTGAG CTGCGTCACG GTTTGGACCG 10991 AAGACGAGTG TTGCGAGACG AGGATTTCGA AGTTGATGAA GTGACAGGGA TCAGTCCTGC CAGGGCACAC 11061 GTGGCTGCAG CCAACCTTGT ATCGGCTTAC GAGCAGACAG TAAAGGAAGA GCGTAACTTC CAAAAGTCTT 11131 TTAATAATCA TGTGCGAACC CTGATTGCCC GCGAAGAAGT TACCCTTGGT TTGATGCATT TGTGGGATTT 11201 GATGGAAGCT ATCATTCAGA ACCCTACTAG CAAACCTCTG ACCGCCCAGC TGTTTCTGGT GGTGCAACAC 11271 AGCAGAGACA ATGAGGCTTT CAGAGAGGCG CTGCTGAACA TCACCGAACC CGAGGGGAGA TGGTTGTATG 11341 ATCTTATCAA CATTCTACAG AGTATCATAG TGCAGGAGCG GAGCCTGGGC CTGGCCGAGA AGGTAGCTGC 11411 CATCAATTAC TCGGTTTTGA GCTTGGGAAA ATATTACGCT CGCAAAATCT ACAAGACTCC ATACGTTCCC 11481 ATAGACAAGG AGGTGAAGAT AGATGGGTTC TACATGCGCA TGACGCTCAA GGTCTTGACC CTGAGCGATG 11551 ATCTTEGGGT GTATCGCAAT GACAGAATGC ATCGCGCGGT TAGCGCCAGC AGGAGGCGCG AGTTAAGCGA 11621 CAGGGAACTG ATGCACAGTT TGCAAAGAGC TCTGACTGGA GCTGGAACCG AGGGTGAGAA TTACTTCGAC 11691 ATGGGAGCTG ACTTGCAGTG GCAGCCTAGT CGCAGGGCTC TGAGCGCCGC GACGGCAGGA TGTGAGCTTC 11761 CTTACATAGA AGAGGCGGAT GAAGGCGAGG AGGAAGAGGG CGAGTACTTG GAAGACTGAT GGCACAACCC 11831 GTGTTTTTTG CTAGATGGAA CAGCAAGCAC CGGATCCCGC AATGCGGGCG GCGCTGCAGA GCCAGCCGTC 11901 CGGCATTAAC TCCTCGGACG ATTGGACCCA GGCCATGCAA CGTATCATGG CGTTGACGAC TCGCAACCCC 11971 GAAGCCTTTA GACAGCAACC CCAGGCCAAC CGTCTATCGG CCATCATGGA AGCTGTAGTG CCTTCCCGAT

12041 CTAATCCCAC TCATGAGAAG GTCCTGGCCA TCGTGAACGC GTTGGTGGAG AACAAAGCTA TTCGTCCAGA 12111 TGAGGCCGGA CTGGTATACA ACGCTCTCTT AGAACGCGTG GCTCGCTACA ACAGTAGCAA TGTGCAAACC 12181 AATTTGGACC GTATGATAAC AGATGTACGC GAAGCCGTGT CTCAGCGCGA AAGGTTCCAG CGTGATGCCA 12251 ACCTGGGTTC GCTGGTGGCG TTAAATGCTT TCTTGAGTAC TCAGCCTGCT AATGTGCCGC GTGGTCAACA 12321 GGATTATACT AACTITTTAA GTGCTTTGAG ACTGATGGTA TCAGAAGTAC CTCAGAGCGA AGTGTATCAG 12391 TCCGGTCCTG ATTACTTCTT TCAGACTAGC AGACAGGGCT TGCAGACGGT AAATCTGAGC CAAGCTTTTA 12461 AAAACCTTAA AGGTTTGTGG GGAGTGCATG CCCCGGTAGG AGAAAGAGCA ACCGTGTCTA GCTTGTTAAC 12531 TCCGAACTCC CGCCTGTTAT TACTGTTGGT AGCTCCTTTC ACCGACAGCG GTAGCATCGA CCGTAATTCC 12601 TATTTGGGTT ACCTACTAAA CCTGTATCGC GAAGCCATAG GGCAAAGTCA GGTGGACGAG CAGACCTATC 12671 AAGAAATTAC CCAAGTCAGT CGCGCTTTGG GACAGGAAGA CACTGGCAGT TTGGAAGCCA CTCTGAACTT 12741 CTTGCTTACC AATCGGTCTC AAAAGATCCC TCCTCAATAT GCTCTTACTG CGGAGGAGGA GAGGATCCTT 12811 AGATATGTGC AGCAGAGCGT GGGATTGTTT CTGATGCAAG AGGGGGCAAC TCCGACTGCA GCACTGGACA 12881 TGACAGCGCG AAATATGGAG CCCAGCATGT ATGCCAGTAA CCGACCTTTC ATTAACAAAC TGCTGGACTA 12951 CTTGCACAGA GCTGCCGCTA TGAACTETGA TTATTTCACC AATGCCATCT TAAACCCCGCA CTGGCTGCCC 13021 CCACCTGGTT TCTACACGGG CGAATATGAC ATGCCCGACC CTAATGACGG ATTTCTGTGG GACGACGTGG 13091 ACAGCGATGT TTTTTCACCT CTTTCTGATC ATCGCACGTG GAAAAAGGAA GGCGGTGATA GAATGCATTC 13161 TTCTGCATCG CTGTCCGGGG TCATGGGTGC TACCGCGGCT GAGCCCGAGT CTGCAAGTCC TTTTCCTAGT 13231 CTACCCTTTT CTCTACACAG TGTACGTAGC AGCGAAGTGG GTAGAATAAG TCGCCCGAGT TTAATGGGCG 13301 AAGAGGAGTA CCTAAACGAT TCCTTGCTCA GACCGGCAAG AGAAAAAAAT TTCCCAAACA ATGGAATAGA 13371 AAGTTTGGTG GATAAAATGA GTAGATGGAA GACTTATGCT CAGGATCACA GAGACGAGCC TGGGATCATG 13441 GGGACTACAA GTAGAGCGAG CCGTAGACGC CAGCGCCATG ACAGACAGAG GGGTCTTGTG TGGGACGATG 13511 AGGATTCGGC CGATGATAGC AGCGTGTTGG ACTTGGGTGG GAGAGGAAGG GGCAACCCGT TTGCTCATTT 13581 GCGCCCTCGC TTGGGTGGTA TGTTGTGAAA AAAAATAAAA AAGAAAAACT CACCAAGGCC ATGGCGACGA 13651 GCGTACGTTC GTTCTTCTTT ATTATCTGTG TCTAGTATAA TGAGGCGAGT CGTGCTAGGC GGAGCGGTGG 13721 TGTATCCGGA GGGTCCTCCT CCTTCGTACG AGAGCGTGAT GCAGCAGCAG CAGGCGACGG EGGTGATGCA 13791 ATCCCCACTG GAGGCTCCCT TTGTGCCTCC GCGATACCTG GCACCTACGG AGGGCAGAAA CAGCATTCGT 13861 TACTCGGAAC TEGCACCTCA GTACGATACC ACCAGGTTGT ATCTGGTGGA CAACAAGTCG GCGGACATTG 13931 CTTCTCTGAA CTATCAGAAT GACCACAGCA ACTTCTTGAC CACGGTGGTG CAGAACAATG ACTTTACCCC 14001 TACGGAAGEE AGEACECAGA CEATTAACTT TGATGAACGA TEGEGGTGGG GEGGTEAGET AAAGAEEATE 14071 ATGCATACTA ACATGCCAAA CGTGAACGAG TATATGTTTA GTAACAAGTT CAAAGCGCGT GTGATGGTGT 14141 CCAGAAAACC TCCCGACGGT GCTGCAGTTG GGGATACTTA TGATCACAAG CAGGATATTT TGGAATATGA 14281 ATCATAGATA ATTACTTGAA AGTGGGTAGA CAGAATGGAG TGCTTGAAAG TGACATTGGT GTTAAGTTCG 14351 ACACCAGGAA CTTCAAGCTG GGATGGGATC CCGAAACCAA GTTGATCATG CCTGGAGTGT ATACGTATGA 14421 ACCETTOCAT COTGACATTG TOTTACTGCC TEGOTGCGGA GTGGATTTTA COGAGAGTCG TTTGAGCAAC 14491 CTTCTTGGTA TCAGAAAAA ACAGCCATTT CAAGAGGGTT TTAAGATTTT GTATGAAGAT TTAGAAGGTG 14561 GTAATATTCC GGCCCTCTTG GATGTAGATG CCTATGAGAA CAGTAAGAAA GAACAAAAAG CCAAAATAGA 14631 AGCTGCTACA GCTGCTGCAG AAGCTAAGGC AAACATAGTT GCCAGCGACT CTACAAGGGT TGCTAACGCT 14701 GGAGAGGTCA GAGGAGACAA TTTTGCGCCA ACACCTGTTC CGACTGCAGA ATCATTATTG GCCGATGTGT 14771 CTGAAGGAAC GGACGTGAAA CTCACTATTC AACCTGTAGA AAAAGATAGT AAGAATAGAA GCTATAATGT 14841 GTTGGAAGAC AAAATCAACA CAGCCTATCG CAGTTGGTAT CTTTCGTACA ATTATGGCGA TCCCGAAAAA 14911 GGAGTGCGTT CCTGGACATT GCTCACCACC TCAGATGTCA CCTGCGGAGC AGAGCAGGTT TACTGGTCGC 14981 TTCCAGACAT GATGAAGGAT CCTGTCACTT TCCGCTCCAC TAGACAAGTC AGTAACTACC CTGTGGTGGG 15051 TGCAGAGCTT ATGCCCGTCT TCTCAAAGAG CTTCTACAAC GAACAAGCTG TGTACTCCCA GCAGCTCCGC 15121 CAGTCCACCT CGCTTACGCA CGTCTTCAAC CGCTTTCCTG AGAACCAGAT TTTAATCCGT CCGCCGGCGC 15191 CCACCATTAC CACCGTCAGT GAAAACGTTC CTGCTCTCAC AGATCACGGG ACCCTGCCGT TGCGCAGCAG 15261 TATCCGGGGA GTCCAACGTG TGACCGTTAC TGACGCCAGA CGCCGCACCT GTCCCTACGT GTACAAGGCA 15331 CTGGGCATAG TCGCACCGCG CGTCCTTTCA AGCCGCACTT TCTAAAAAAA AAAAATGTCC ATTCTTATCT 15401 CGCCCAGTAA TAACACCGGT TGGGGTCTGC GCGCTCCAAG CAAGATGTAC GGAGGCGCAC GCAAACGTTC 15471 TACCCAACAT CCCGTGCGTG TTCGCGGACA TTTTCGCGCT CCATGGGGTG CCCTCAAGGG CCGCACTCGC 15541 GTTCGAACCA CCGTCGATGA TGTAATCGAT CAGGTGGTTG CCGACGCCCG TAATTATACT CCTACTGCGC 15611 CTACATCTAC TGTGGATGCA GTTATTGACA GTGTAGTGGC TGACGCTCGC AACTATGCTC GACGTAAGAG 15681 CCGGCGAAGG CGCATTGCCA GACGCCACCG AGCTACCACT GCCATGCGAG CCGCAAGAGC TCTGCTACGA 15751 AGAGCTAGAC GCGTGGGGCG AAGAGCCATG CTTAGGGCGG CCAGACGTGC AGCTTCGGGC GCCAGCGCCG 15821 GCAGGTCCCG CAGGCAAGCA GCCGCTGTCG CAGCGGCGAC TATTGCCGAC ATGGCCCAAT CGCGAAGAGG 15891 CAATGTATAC TGGGTGCGTG AEGCTGCCAC CGGTCAACGT GTACCCGTGC GCACCCGTCC CCCTCGCACT 15961 TAGAAGATAC TGAGCAGTCT CCGATGTTGT GTCCCAGCGG CGAGGATGTC CAAGCGCAAA TACAAGGAAG 16031 AAATGCTGCA GGTTATCGCA CCTGAAGTCT ACGGCCAACC GTTGAAGGAT GAAAAAAAAC CCCGCAAAAT

16101 CAAGCGGGTT AAAAAGGACA AAAAAGAAGA GGAAGATGGC GATGATGGGC TGGCGGAGTT TGTGCGCGAG 16171 TITGCCCCAC GGCGACGCGT GCAATGGCGT GGGCGCAAAG TICGACATGT GITGAGACCT GGAACTTCGG 16241 TGGTCTTTAC ACCCGGCGAG CGTTCAAGCG CTACTTTTAA GCGTTCCTAT GATGAGGTGT ACGGGGATGA 16311 TGATATTCTT GAGCAGGCGG.CTGACCGATT AGGCGAGTTT GCTTATGGCA AGCGTAGTAG AATAACTTCC 16381 AAGGATGAGA CAGTGTCAAT ACCCTTGGAT CATGGAAATC CCACCCCTAG TCTTAAACCG GTCACTTTGC 16451 AGCAAGTGTT ACCCGTAACT CCGCGAACAG GTGTTAAACG CGAAGGTGAA GATTTGTATC CCACTATGCA 16521 ACTGATGGTA CCCAAACGCC AGAAGTTGGA GGACGTTTTG GAGAAAGTAA AAGTGGATCC AGATATTCAA 16591 CCTGAGGTTA AAGTGAGACC CATTAAGCAG GTAGCGCCTG GTCTGGGGGT ACAAACTGTA GACATTAAGA 16661 TTCCCACTGA AAGTATGGAA GTGCAAACTG AACCCGCAAA GCCTACTGCC ACCTCCACTG AAGTGCAAAC 16731 GGATCCATGG ATGCCCATGC CTATTACAAC TGACGCCGCC GGTCCCACTC GAAGATCCCG ACGAAAGTAC 16801 GGTCCAGCAA GTCTGTTGAT GCCCAATTAT GTTGTACACC CATCTATTAT TCCTACTCCT GGTTACCGAG 16871 GCACTCGCTA CTATCGCAGC CGAAACAGTA CCTCCCGCCG TCGCCGCAAG ACACCTGCAA ATCGCAGTCG 16941 TEGECGTAGA EGEACAAGEA AACEGAETEE EGGEGECETG GTGEGGEAAG TGTACEGEAA TGGTAGTGEG 17011 GAACCTTTGA CACTGCCGCG TGCGCGTTAC CATCCGAGTA TCATCACTTA ATCAATGTTG CCGCTGCCTC 17081 CTTGCAGATA TGGCCCTCAC TTGTCGCCTT CGCGTTCCCA TCACTGGTTA CCGAGGAAGA AACTCGCGCC 17151 GTAGAAGAGG GATGTTGGGA CGCGGAATGC GACGCTACAG GCGACGGCGT GCTATCCGCA AGCAATTGCG 17221 GGGTGGTTTT TTACCAGCCT TAATTCCAAT TATCGCTGCT GCAATTGGCG CGATACCAGG CATAGCTTCC 17291 GIGGCGGTTC AGGCCTCGCA ACGACATTGA CATTGGAAAA AAAACGTATA AATAAAAAA AATACAATGG 17361 ACTUTGACAC TOCTGGTOUT GTGACTATGT TITUTTAGAG ATGGAAGACA TOAATTTTTO ATCOTTGGCT 17431 CEGEGACACG GEACGAAGEE GTACATGGGE ACCTGGAGEG ACATEGGEAE GAGECAACTG AACGGGGGEG 17501 CCTTCAATTG GAGCAGTATC TGGAGCGGGC TTAAAAATTT TGGCTCAACC ATAAAAACAT ACGGGAACAA 17571 AGCTTGGAAC AGCAGTACAG GACAGGCGCT TAGAAATAAA CTTAAAGACC AGAACTTCCA ACAAAAAGTA 17641 GTCGATGGGA TAGCTTCCGG CATCAATGGA GTGGTAGATT TGGCTAACCA GGCTGTGCAG AAAAAGATAA 17711 ACAGTCGTTT GGACCCGCCG CCAGCAACCC CAGGTGAAAT GCAAGTGGAG GAAGAAATTC CTCCGCCAGA 17781 AAAACGAGGC GACAAGCGTC CGCGTCCCGA TTTGGAAGAG ACGCTGGTGA CGCGCGTAGA TGAACCGCCT 17851 TETTATGAGG AAGCAACGAA GETTGGAATG CCCACCACTA GACCGATAGC CCCAATGGCC ACCGGGGTGA 17921 TGAAACCTTC TCAGTTGCAT CGACCCGTCA CCTTGGATTT GCCCCCTCCC CCTGCTGCTA CTGCTGTACC 17991 CGCTTCTAAG CCTGTCGCTG CCCCGAAACC AGTCGCCGTA GCCAGGTCAC GTCCCGGGGG CGCTCCTCGT 18061 CCAAATGCGC ACTGGCAAAA TACTCTGAAC AGCATCGTGG GTCTAGGCGT GCAAAGTGTA AAACGCCGTC 18131 GCTGCTTTTA ATTAAATATG GAGTAGCGCT TAACTTGCCT ATCTGTGTAT ATGTGTCATT ACACGCCGTC 18201 ACAGCAGCAG AGGAAAAAAG GAAGAGGTCG TGCGTCGACG CTGAGTTACT TTCAAGATGG CCACCCCATC 18271 GATGCTGCCC CAATGGGCAT ACATGCACAT CGCCGGACAG GATGCTTCGG AGTACCTGAG TCCGGGTCTG 18341 GTGCAGTTCG CCCGCGCCAC AGACACCTAC TTCAATCTGG GAAATAAGTT TAGAAATCCC ACCGTAGCGC 18411 EGACCCACGA TGTGACCACC GACCGTAGCC AGCGGCTCAT GTTGCGCTTC GTGCCCGTTG ACCGGGAGGA 18481 CAATACATAC TETTACAAAG TGEGGTACAE CETGGEEGTG GGEGACAACA GAGTGETGGA TATGGEEAGE 18551 ACGITCITIC ACATTAGGGG CGTGTTGGAC AGAGGTCCCA GTTTCAAACC CTATTCTGGT ACGGCTTACA 18621 ACTOTOTGGC TOCTAAAGGO GOTOCAAATG CATOTOAATG GATTGCAAAA GGOGTACCAA CTGCAGCAGO 18691 CGCAGGCAAT GGTGAAGAAG AACATGAAAC AGAGGAGAAA ACTGCTACTT ACACTTTTGC CAATGCTCCT 18761 GTAAAAGCCG AGGCTCAAAT TACAAAAGAG GGCTTACCAA TAGGTTTGGA GATTTCAGCT GAAAACGAAT 18831 CTAAACCCAT CTATGCAGAT AAACTTTATC AGCCAGAACC TCAAGTGGGA GATGAAACTT GGACTGACCT 18901 AGACGGAAAA ACCGAAGAGT ATGGAGGCAG GGCTCTAAAG CCTACTACTA ACATGAAACC CTGTTACGGG 18971 TCCTATGCGA AGCCTACTAA TTTAAAAGGT GGTCAGGCAA AACCGAAAAA CTCGGAACCG TCGAGTGAAA 19041 AAATTGAATA TGATATTGAC ATGGAATTTT TTGATAACTC ATCGCAAAGA ACAAACTTCA GTCCTAAAAT 19111 TGTCATGTAT GCAGAAAATG TAGGTTTGGA AACGCCAGAC ACTCATGTAG TGTACAAACC TGGAACAGAA 19181 GACACAAGTT CCGAAGCTAA TTTGGGACAA CAGTCTATGC CCAACAGACC CAACTACATT GGCTTCAGAG 19251 ATAACTTTAT TGGACTCATG TACTATAACA GTACTGGTAA CATGGGGGTG CTGGCTGGTC AAGCGTCTCA 19321 GTTAAATGCA GTGGTTGACT TGCAGGACAG AAACACAGAA CTTTCTTACC AACTCTTGCT TGACTCTCTG 19391 GGCGACAGAA CCAGATACTT TAGCATGTGG AATCAGGCTG TGGACAGTTA TGATCCTGAT GTACGTGTTA 19461 TTGAAAATCA TGGTGTGGAA GATGAACTTC CCAACTATTG TTTTCCACTG GACGGCATAG GTGTTCCAAC 19531 AACCAGTTAC AAATCAATAG TTCCAAATGG AGAAGATAAT AATAATTGGA AAGAACCTGA AGTAAATGGA 19601 ACAAGTGAGA TCGGACAGGG TAATTTGTTT GCCATGGAAA TTAACCTTCA AGCCAATCTA TGGCGAAGTT 19671 TECTTTATTE CAATGTGGET CTGTATETEE CAGACTEGTA CAAATACACE CEGTECAATG TEACTETTEE 19741 AGAAAACAAA AACACCTACG ACTACATGAA CGGGCGGGTG GTGCCGCCAT CTCTAGTAGA CACCTATGTG 19811 AACATTGGTG CCAGGTGGTC TCTGGATGCC ATGGACAATG TCAACCCATT CAACCACCAC CGTAACGCTG 19881 GCTTGCGTTA CCGATCTATG CTTCTGGGTA ACGGACGTTA TGTGCCTTTC CACATACAAG TGCCTCAAAA 19951 ATTETTEGET GTTAAAAACC TGCTGCTTCT CCCAGGCTCC TACACTTATG AGTGGAACTT TAGGAAGGAT 20021 GTGAACATGG TTCTACAGAG TTCCCTCGGT AACGACCTGC GGGTAGATGG CGCCAGCATC AGTTTCACGA 20091 GCATCAACCT CTATGCTACT TTTTTCCCCA TGGCTCACAA CACCGCTTCC ACCCTTGAAG CCATGCTGCG

20161 GAATGACACC AATGATCAGT CATTCAACGA CTACCTATCT GCAGCTAACA TGCTCTACCC CATTCCTGCC 20231 AATGCAACCA ATATTCCCAT ITCCATTCCT TCTCGCAACT GGGCGGCTTT CAGAGGCTGG TCATTTACCA 20301 GACTGAAAAC CAAAGAAACT CCCTCTTTGG GGTCTGGATT TGACCCCTAC TTTGTCTATT CTGGTTETAT 20371 TCCCTACCTG GATGGTACCT TCTACCTGAA CCACACTTTT AAGAAGGTTT CCATCATGTT TGACTCTTCA 20441 GTGAGCTGGC CTGGAAATGA CAGGTTACTA TCTCCTAACG AATTTGAAAT AAAGCGCACT GTGGATGGCG 20511 AAGGCTACAA CGTAGCCCAA TGCAACATGA CCAAAGACTG GTTCTTGGTA CAGATGCTCG CCAACTACAA 20581 CATCGGCTAT CAGGGCTTCT ACATTCCAGA AGGATACAAA GATCGCATGT ATTCATTTTT CAGAAACTTC 20651 CAGCCCATGA GCAGGCAGGT GGTTGATGAG GTCAATTACA AAGACTTCAA GGCCGTCGCC ATACCCTACC 20721 AACACAACAA CTCTGGCTTT GTGGGTTACA TGGCTCCGAC CATGCGCCAA GGTCAACCCT ATCCCGCTAA 20791 CTATCCCTAT CCACTCATTG GAACAACTGC CGTAAATAGT GTTACGCAGA AAAAGTTCTT GTGTGACAGA 20861 ACCATGTGGC GCATACCGTT CTCGAGCAAC TTCATGTCTA TGGGGGCCCT TACAGACTTG GGACAGAATA 20931 TECTCTATEC CAACTCAGCT CATECTCTEG ACATGACCTT TEAGETEGAT CCCATEGATE AGCCCACCCT 21001 GCTTTATCTT CTCTTCGAAG TTTTCGACGT GGTCAGAGTG CATCAGCCAC ACCGCGGCAT CATCGAGGCA 21071 GTCTACCTGC GTACACCGTT CTCGGCCGGT AACGCTACCA CGTAAGAAGC TTCTTGCTTC TTGCAAATAG 21141 CAGCTGCAAC CATGGCCTGC GGATCCCAAA ACGGCTCCAG CGAGCAAGAG CTCAGAGCCA TTGTCCAAGA 21211 CCTGGGTTGC GGACCCTATT TTTTGGGAAC CTACGATAAG CGCTTCCCGG GGTTCATGGC CCCCGATAAG 21281 CTCGCCTGTG CCATTGTAAA TACGGCCGGA CGTGAGACGG GGGGAGAGCA CTGGTTGGCT TTCGGTTGGA 21351 ACCCACGTTC TAACACCTGC TACCTTTTTG ATCCTTTTGG ATTCTCGGAT GATCGTCTCA AACAGATTTA 21421 CCAGTTIGAA TATGAGGGTC TCCTGCGCCG CAGCGCTCTT GCTACCAAGG ACCGCTGTAT TACGCTGGAA 21491 AAATCTACCC AGACCGTGCA GGGCCCCCGT TCTGCCGCCT GCGGACTTTT CTGCTGCATG TTCCTTCACG 21561 CCTTTGTGCA CTGGCCTGAC CGTCCCATGG ACGGAAACCC CACCATGAAA TTGCTAACTG GAGTGCCAAA 21631 CAACATGETT CATTETECTA AAGTECAGEE CACCETGTGT GACAATCAAA AAGCACTETA CCATTTTETT 21701 AATACCCATT CGCCTTATTT TCGCTCTCAT CGTACACACA TCGAAAGGGC CACTGCGTTC GACCGTATGG 21771 ATGTTCAATA ATGACTCATG TAAACAACGT GTTCAATAAA CATCACTTTA TTTTTTTTACA TGTATCAAGG 21841 CTCTGGATTA CTTATTTATT TACAAGTCGA ATGGGTTCTG ACGAGAATCA GAATGACCCG CAGGCAGTGA 21911 TACGTTGCGG AACTGATACT TGGGTTGCCA CTTGAATTCG GGAATCACCA ACTTGGGAAC CGGTATATCG 21981 GGCAGGATGT CACTCCACAG CTTTCTGGTC AGCTGCAAAG CTCCAAGCAG GTCAGGAGCC GAAATCTTGA 22051 AATCACAATT AGGACCAGTG CTCTGAGCGC GAGAGTIGCG GTACACCGGA TIGCAGCACT GAAACACCAT 22121 CAGCGACGGA TGTCTCACGC TTGCCAGCAC GGTGGGATCT GCAATCATGC CCACATCCAG ATCTTCAGCA 22191 TTGGCAATGC TGAACGGGGT CATCTTGCAG GTCTGCCTAC CCATGGCGGG CACCCAATTA GGCTTGTGGT 22261 TGCAATCGCA GTGCAGGGGG ATCAGTATCA TCTTGGCCTG ATCCTGTCTG ATTCCTGGAT ACACGGCTCT 22331 CATGAAAGCA TCATATTGCT TGAAAGCCTG CTGGGCTTTA CTACCCTCGG TATAAAACAT CCCGCAGGAC 22401 CTGCTCGAAA ACTGGTTAGC TGCACAGCCG GCATCATTCA CACAGCAGCG GGCGTCATTG TTGGCTATTT 22471 GCACCACACT TCTGCCCCAG CGGTTTTGGG TGATTTTGGT TCGCTCGGGA TTCTCCTTTA AGGCTCGTTG 22541 TECGTTETEG ETGGECACAT CEATETEGAT AATETGETEE TTETGAATEA TAATATTGEE ATGEAGGEAC 22611 TTCAGCTTGC CETCATAATC ATTGCAGCCA TGAGGCCACA ACGCACAGCC TGTACATTCC CAATTATGGT 22681 GGGCGATCTG AGAAAAAGAA TGTATCATTC CCTGCAGAAA TCTTCCCATC ATCGTGCTCA GTGTCTTGTG 22751 ACTAGTGAAA GTTAACTGGA TGCCTCGGTG CTCTTCGTTT ACGTACTGGT GACAGATGCG CTTGTATTGT 22821 TCGTGTTGCT CAGGCATTAG TTTAAAACAG GTTCTAAGTT CGTTATCCAG CCTGTACTTC TCCATCAGCA 22891 GACACATCAC TTCCATGCCT TTCTCCCAAG CAGACACCAG GGGCAAGCTA ATCGGATTCT TAACAGTGCA 22961 GGCAGCAGCT CCTTTAGCCA GAGGGTCATC TTTAGCGATC TTCTCAATGC TTCTTTTGCC ATCCTTCTCA 23031 ACGATGCGCA CGGGCGGGTA GCTGAAACCC ACTGCTACAA GTTGCGCCTC TTCTCTTTCT TCTTCGCTGT 23101 CTTGACTGAT GTCTTGCATG GGGATATGTT TGGTCTTCCT TGGCTTCTTT TTGGGGGGTA TCGGAGGAGG 23171 AGGACTGTCG CTCCGTTCCG GAGACAGGGA GGATTGTGAC GTTTCGCTCA CCATTACCAA CTGACTGTCG 23241 GTAGAAGAAC CTGACCCCAC ACGGCGACAG GTGTTTTTCT TCGGGGGCAG AGGTGGAGGC GATTGCGAAG 23311 GGCTGCGGTC CGACCTGGAA GGCGGATGAC TGGCAGAACC CCTTCCGCGT TCGGGGGTGT GCTCCCTGTG 23381 GCGGTCGCTT AACTGATTTC CTTCGCGGCT GGCCATTGTG TTCTCCTAGG CAGAGAAACA ACAGACATGG 23451 AAACTCAGCC ATTGCTGTCA ACATCGCCAC GAGTGCCATC ACATCTCGTC CTCAGCGACG AGGAAAAGGA 23521 GCAGAGCTTA AGCATTCCAC CGCCCAGTCC TGCCACCACC TCTACCCTAG AAGATAAGGA GGTCGACGCA 23591 TCTCATGACA TGCAGAATAA AAAAGCGAAA GAGTCTGAGA CAGACATCGA GCAAGACCCG GGCTATGTGA 23661 CACCGGTGGA ACACGAGGAA GAGTTGAAAC GCTTTCTAGA GAGAGAGGAT GAAAACTGCC CAAAACAGCG 23731 AGCAGATAAC TATCACCAAG ATGCTGGAAA TAGGGATCAG AACACCGACT ACCTCATAGG GCTIGACGGG 23801 GAAGACGCGC TCCTTAAACA TCTAGCAAGA CAGTCGCTCA TAGTCAAGGA TGCATTATTG GACAGAACTG 23871 AAGTGCCCAT CAGTGTGGAA GAGCTCAGCT GCGCCTACGA GCTTAACCTT TTTTCACCTC GTACTCCCCC 23941 CAAACGTCAG CCAAACGGCA CCTGCGAGCC AAATCCTCGC TTAAACTTTT ATCCAGCTTT TGCTGTGCCA 24011 GAAGTACTGG CTACCTATCA CATCTTTTT AAAAATCAAA AAATTCCAGT CTCCTGCCGC GCTAATCGCA 24081 CCCGCGCCGA TGCCCTACTC AATCTGGGAC CTGGTTCACG CTTACCTGAT ATAGCTTCCT TGGAAGAGGT 24151 TCCAAAGATC TTCGAGGGTC TGGGCAATAA TGAGACTCGG GCCGCAAATG CTCTGCAAAA GGGAGAAAAT

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Figure 6

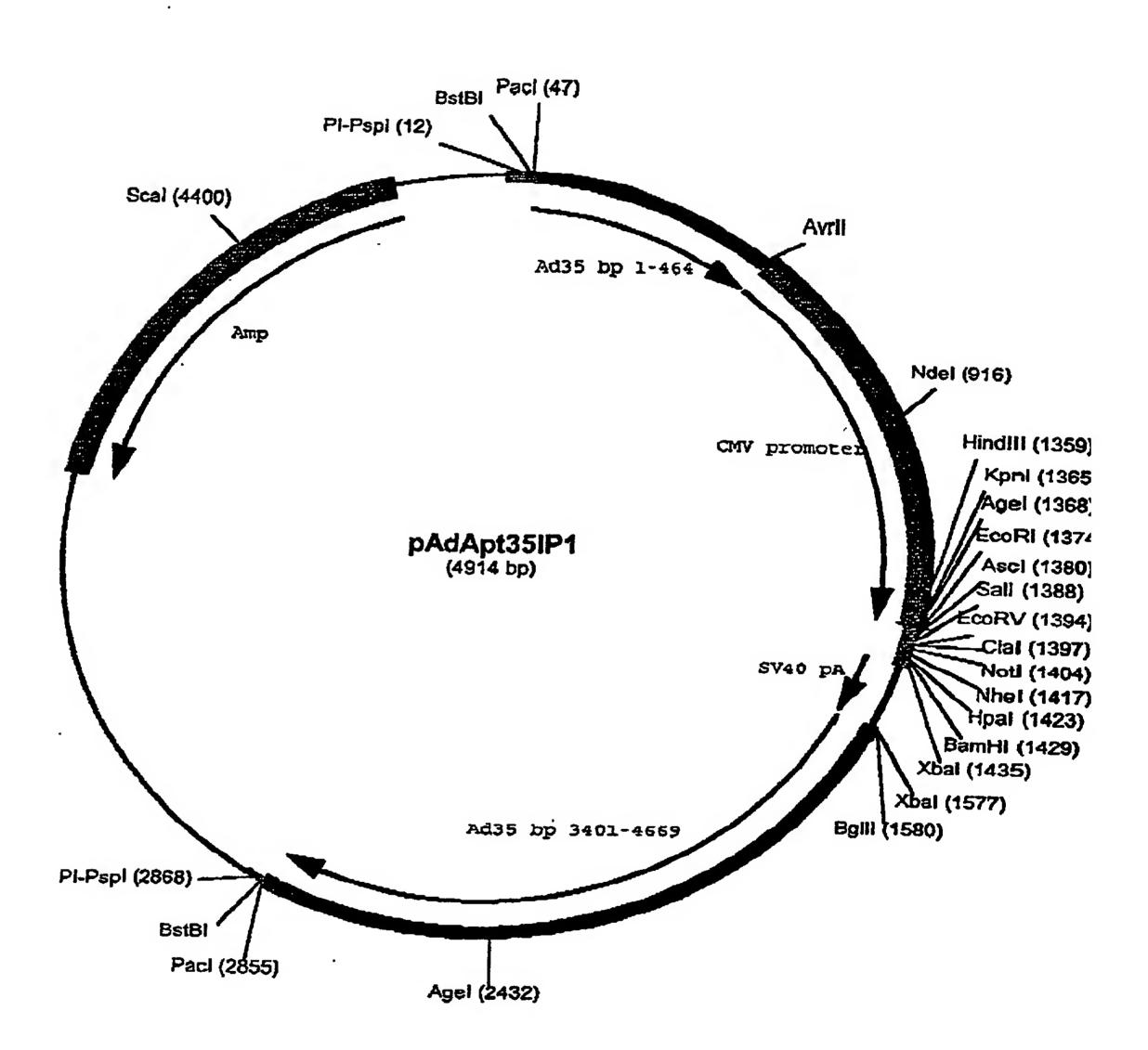
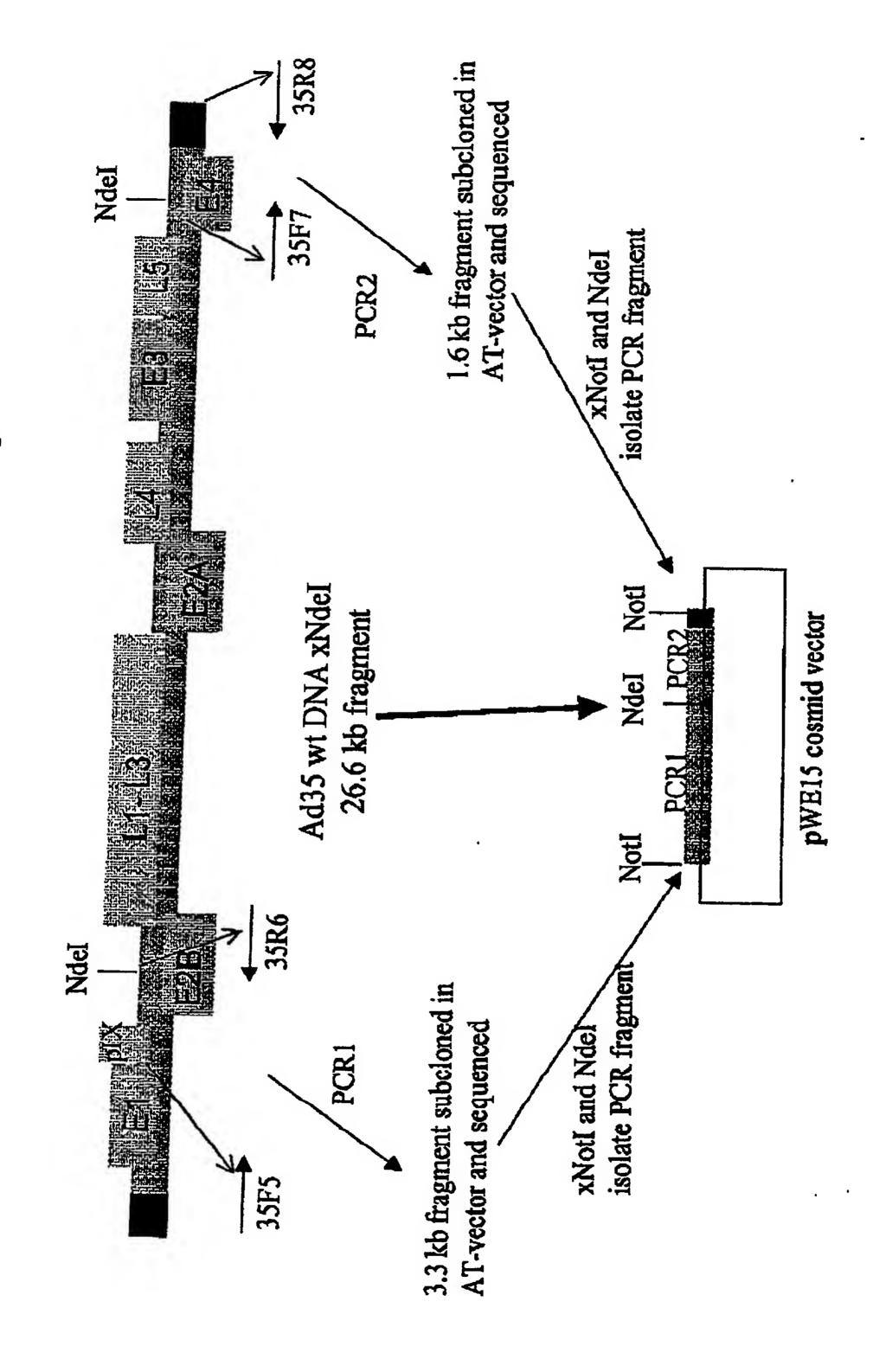


FIG. 7: Construction of cosmid vector pWE.Ad35.pIX-rITR



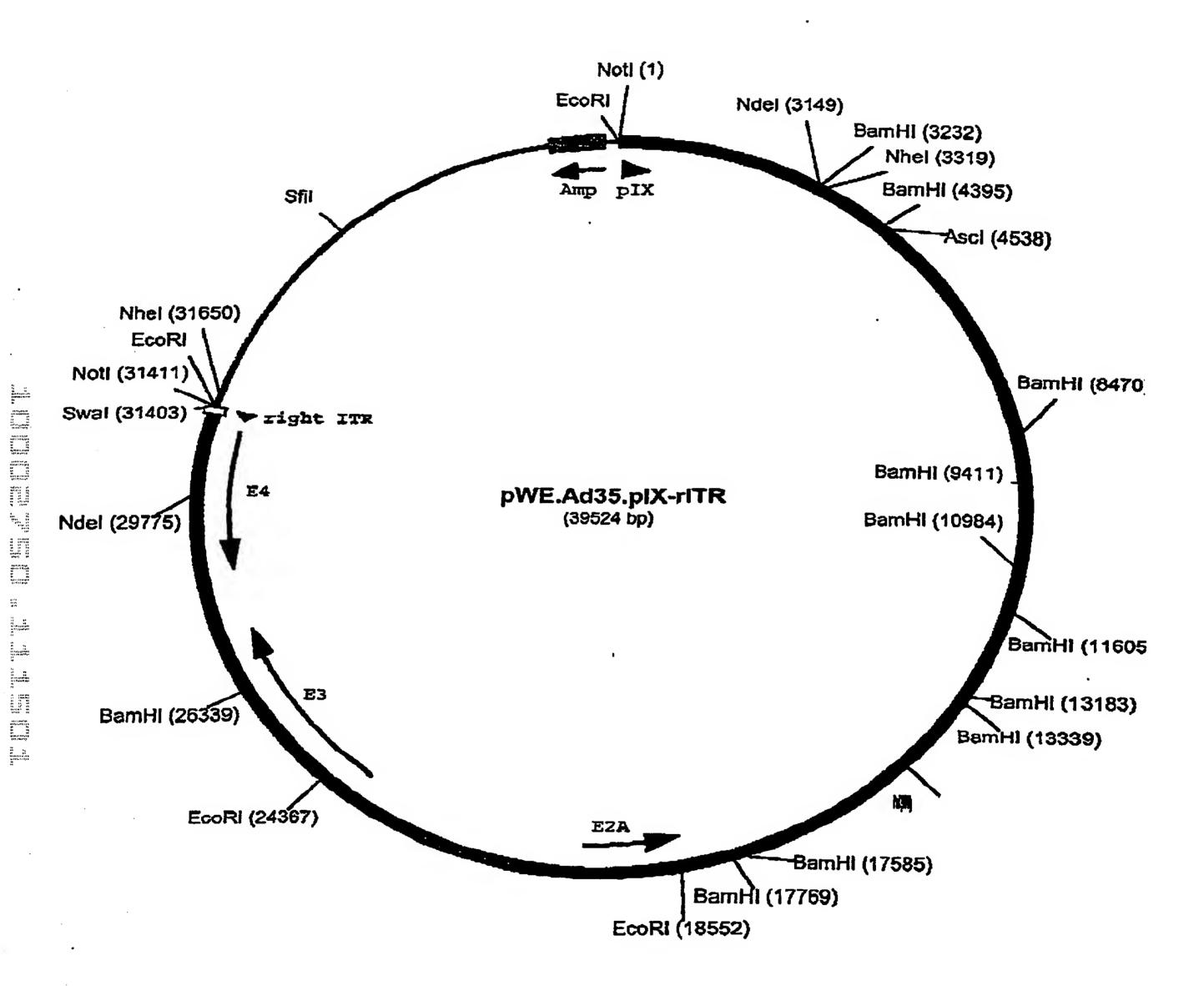


Figure 9

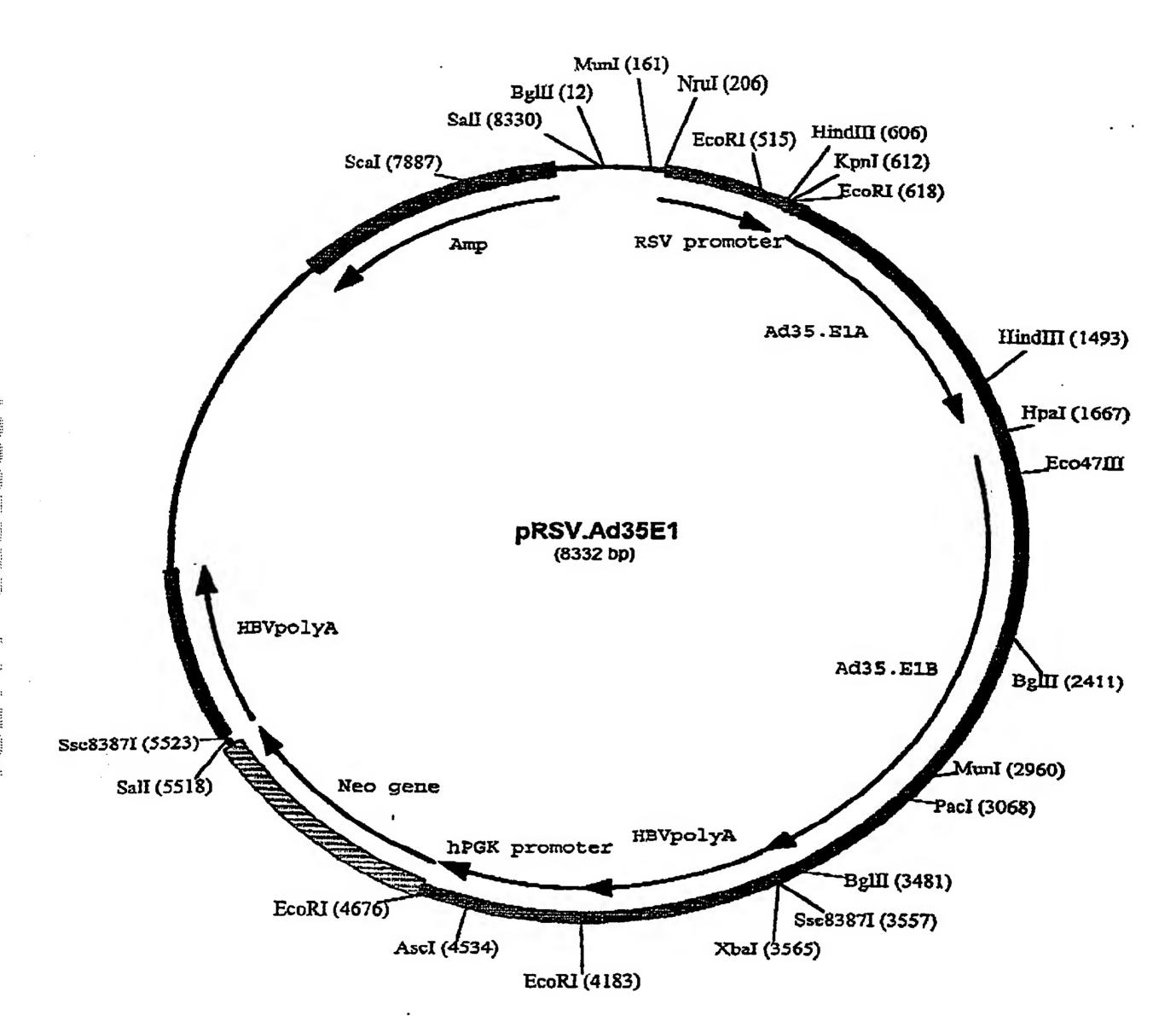


Figure 10

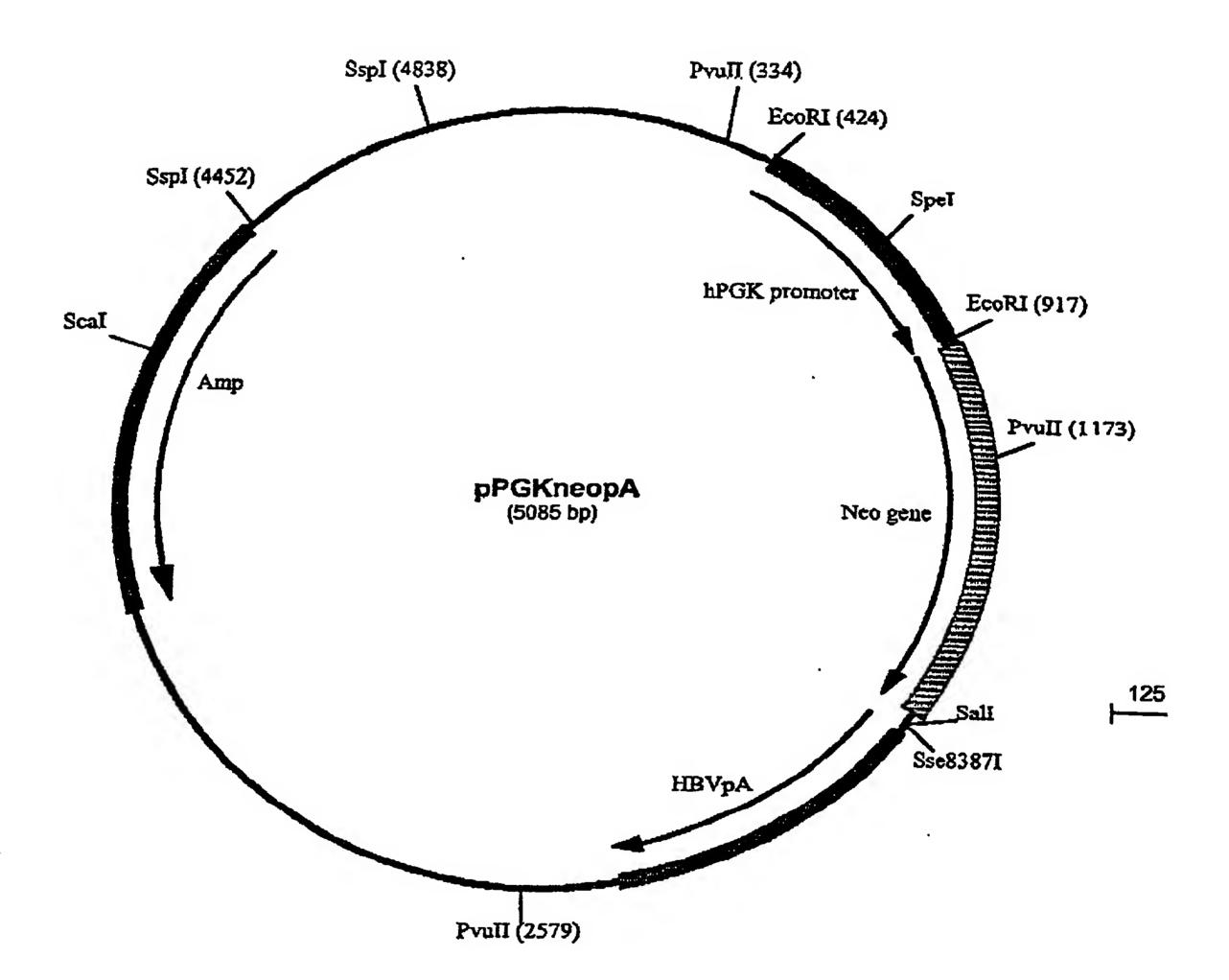


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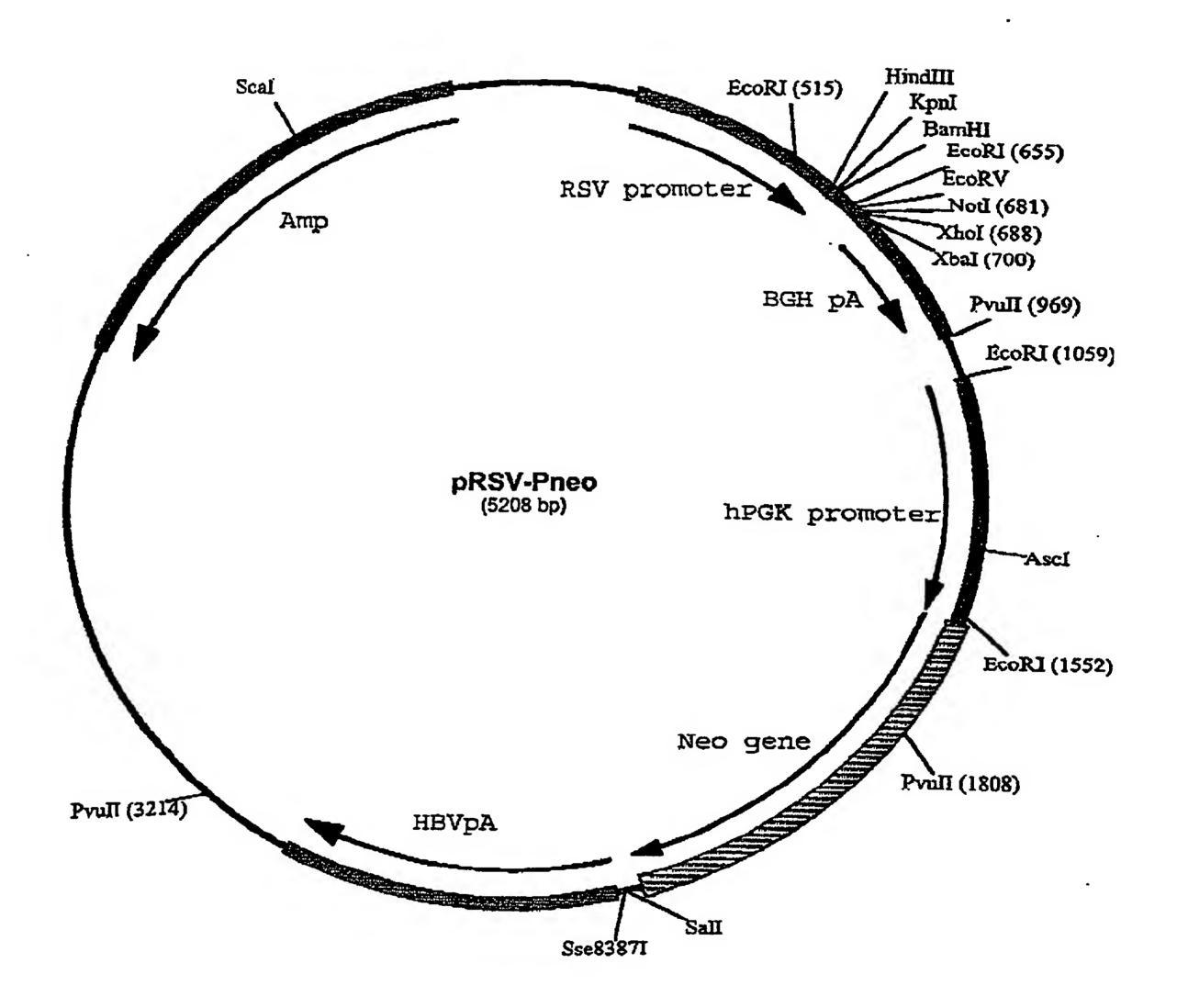
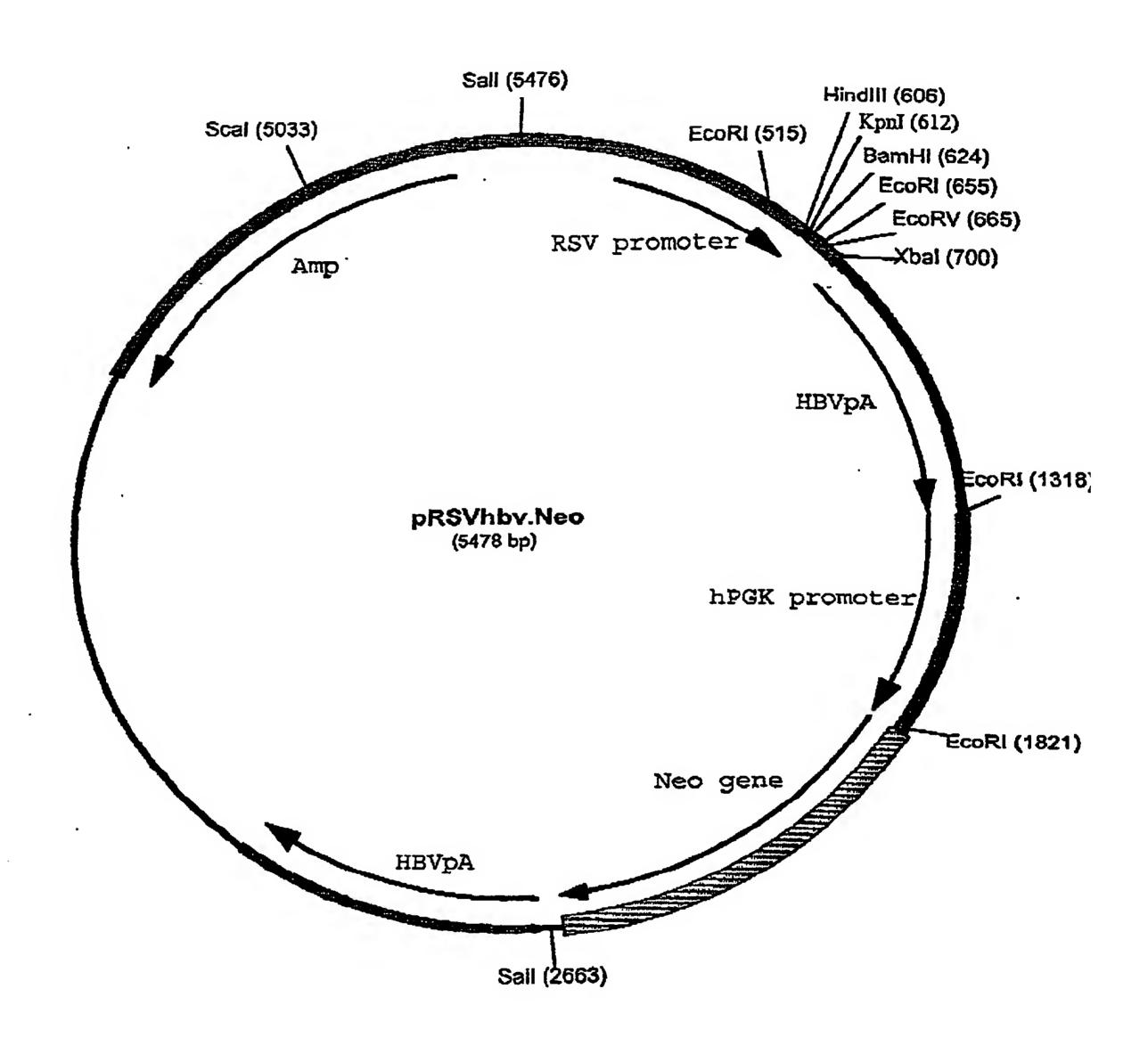


Figure 12



7

Figure 13

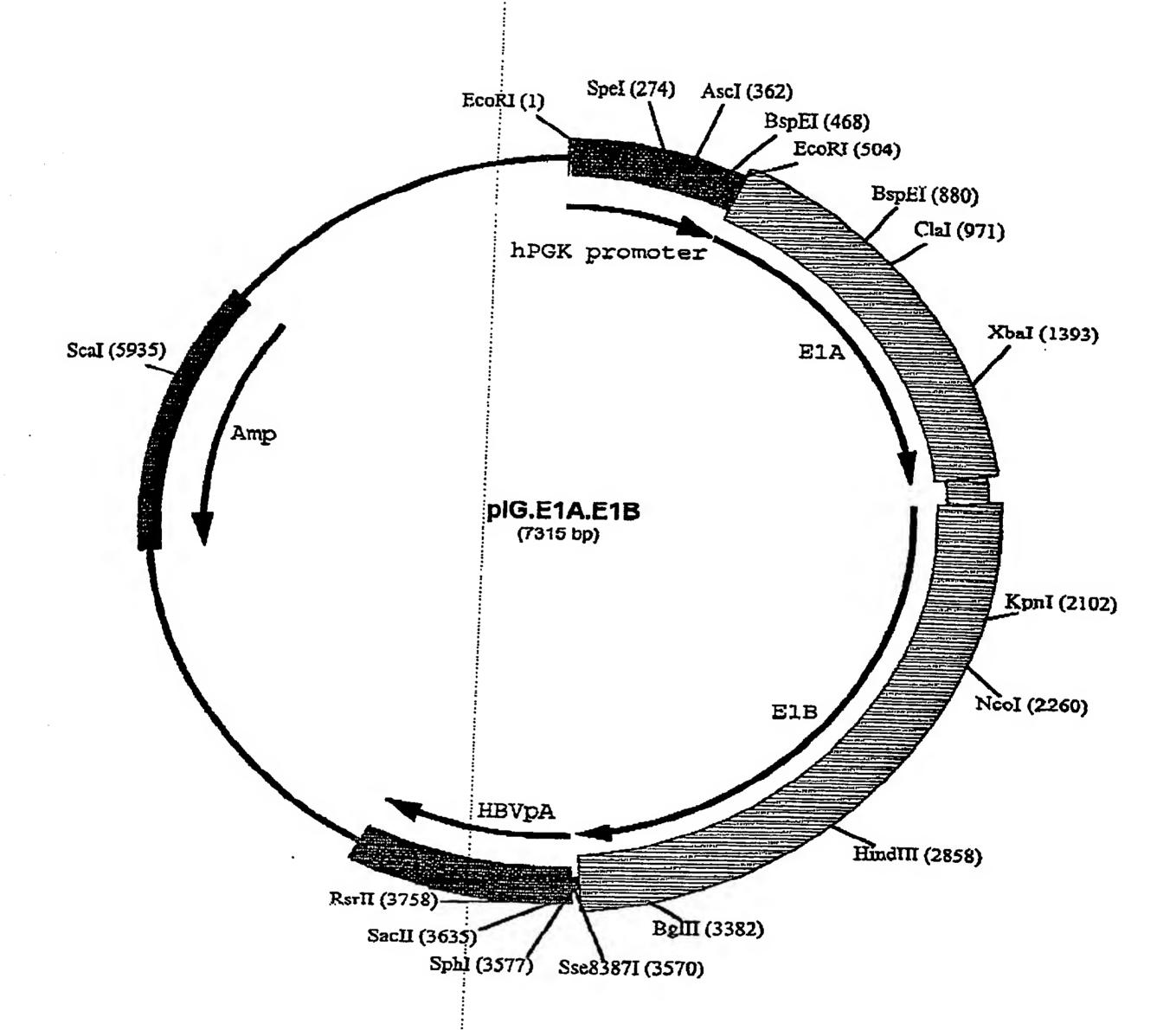


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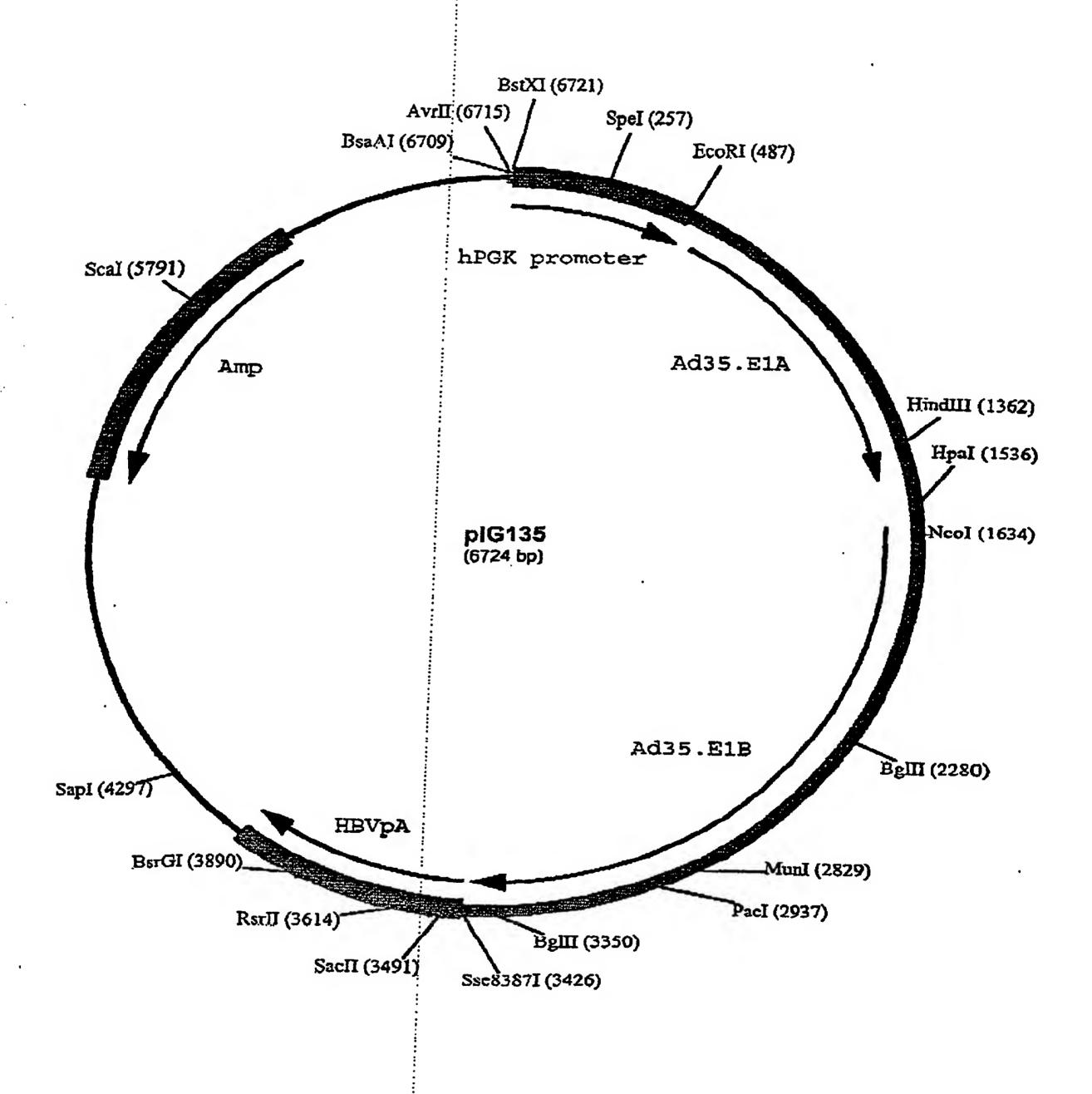


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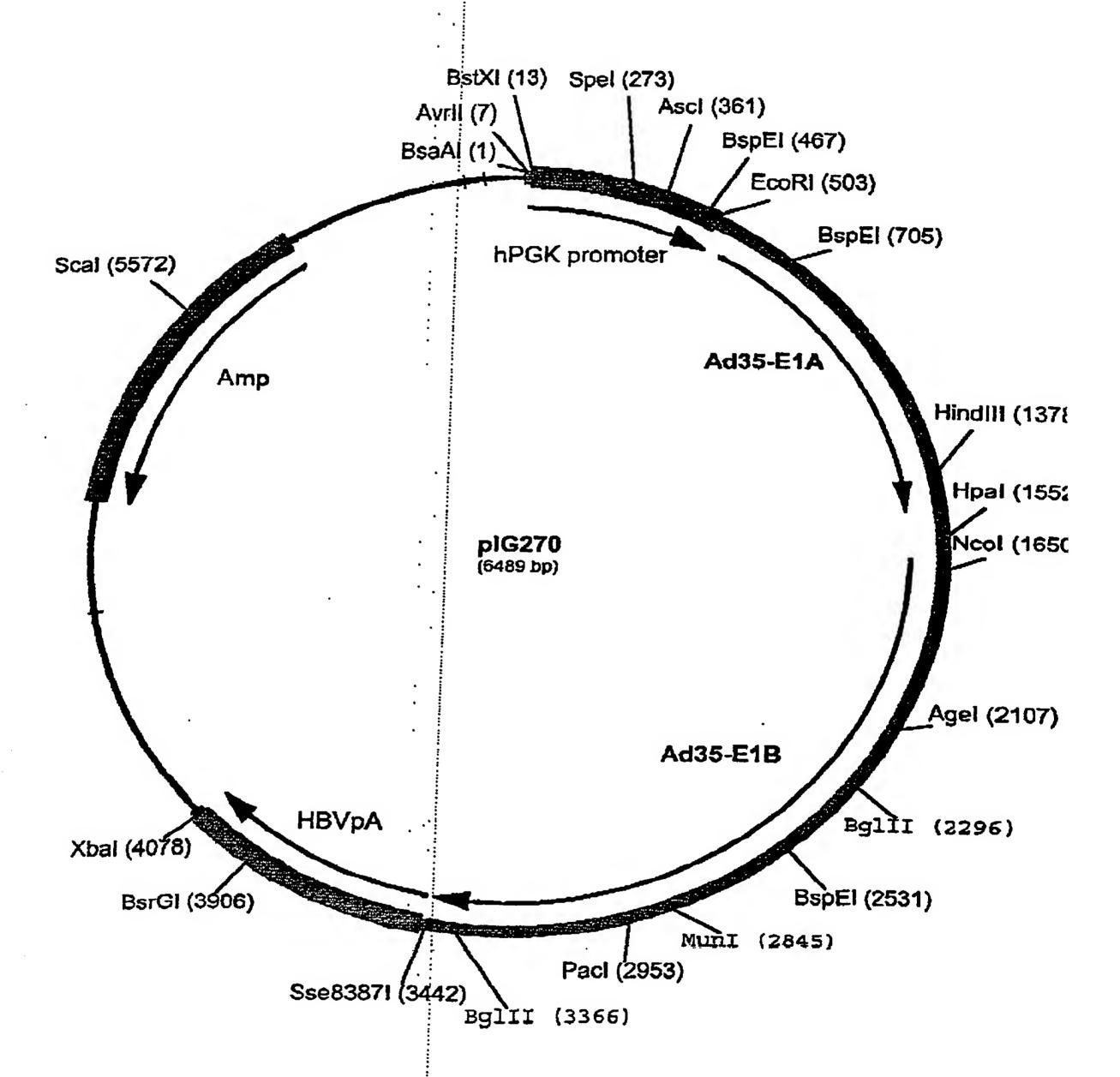


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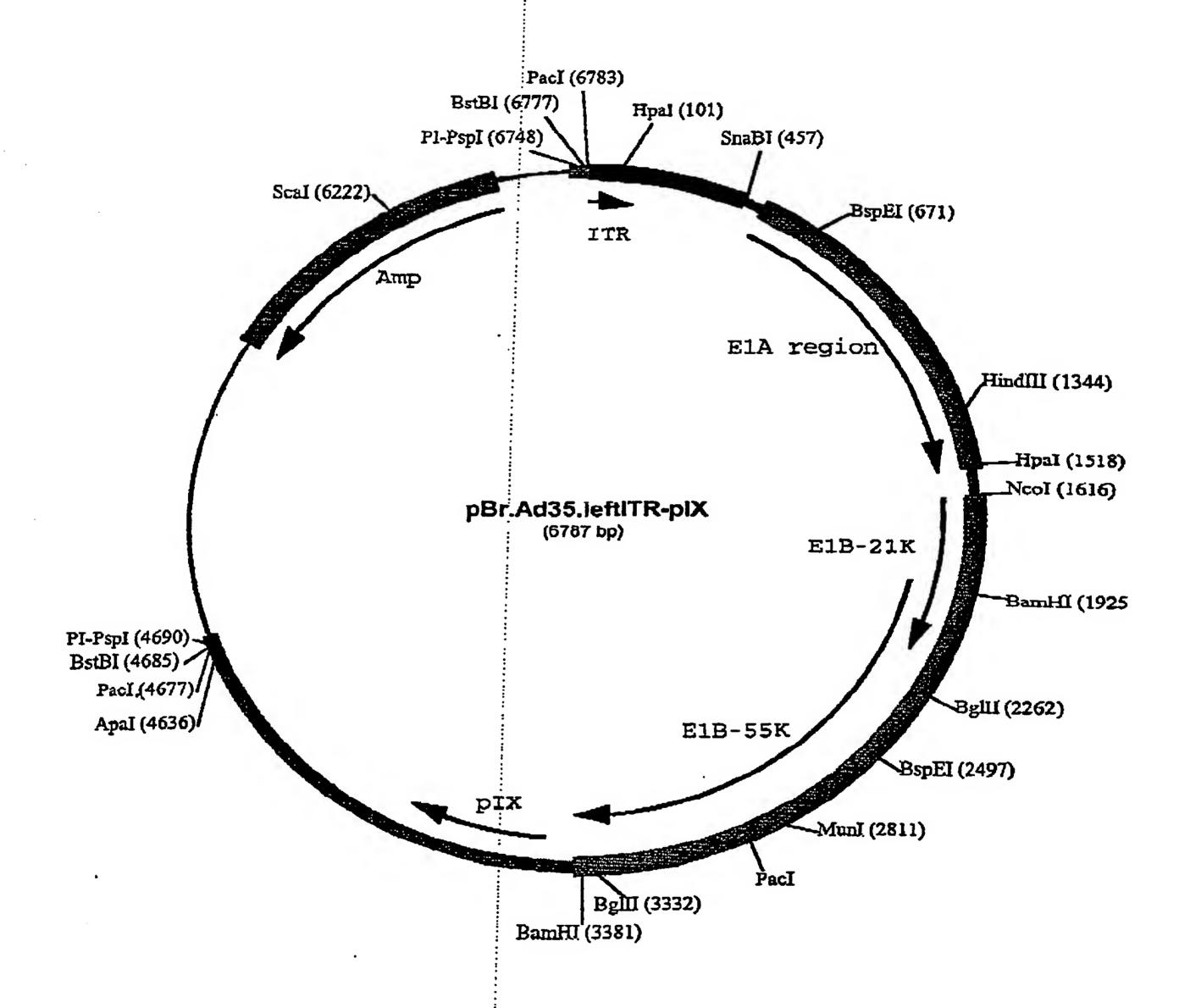


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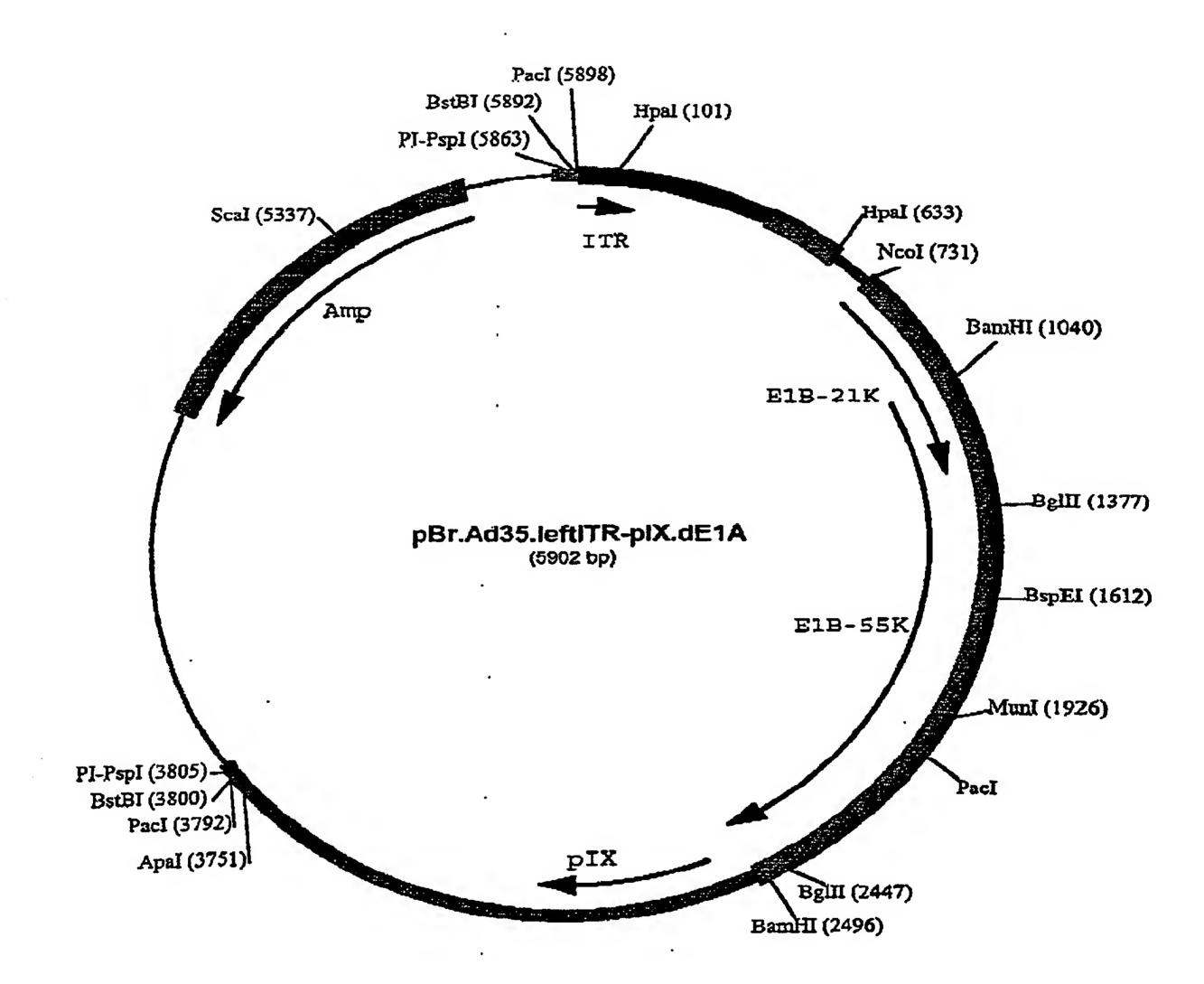


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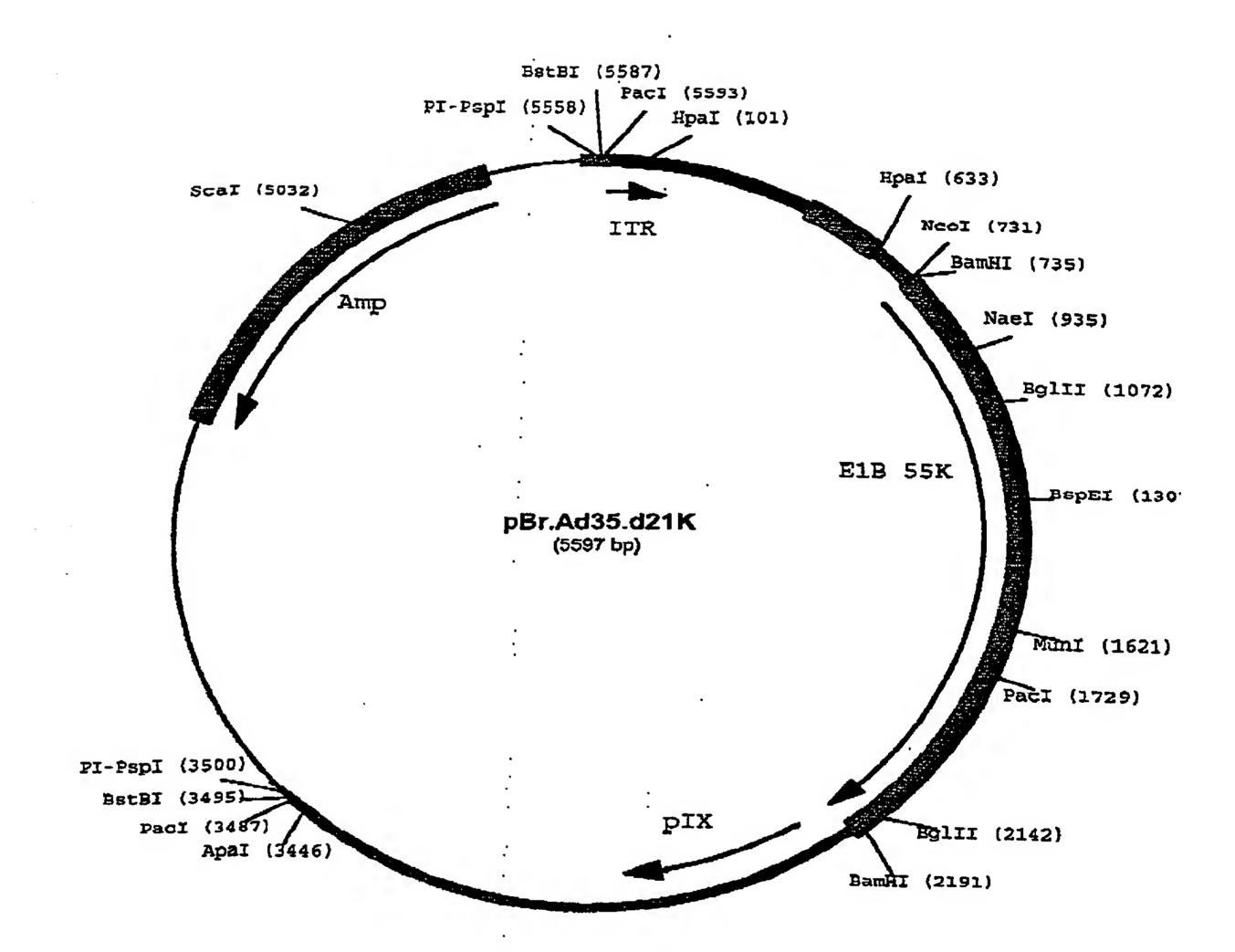


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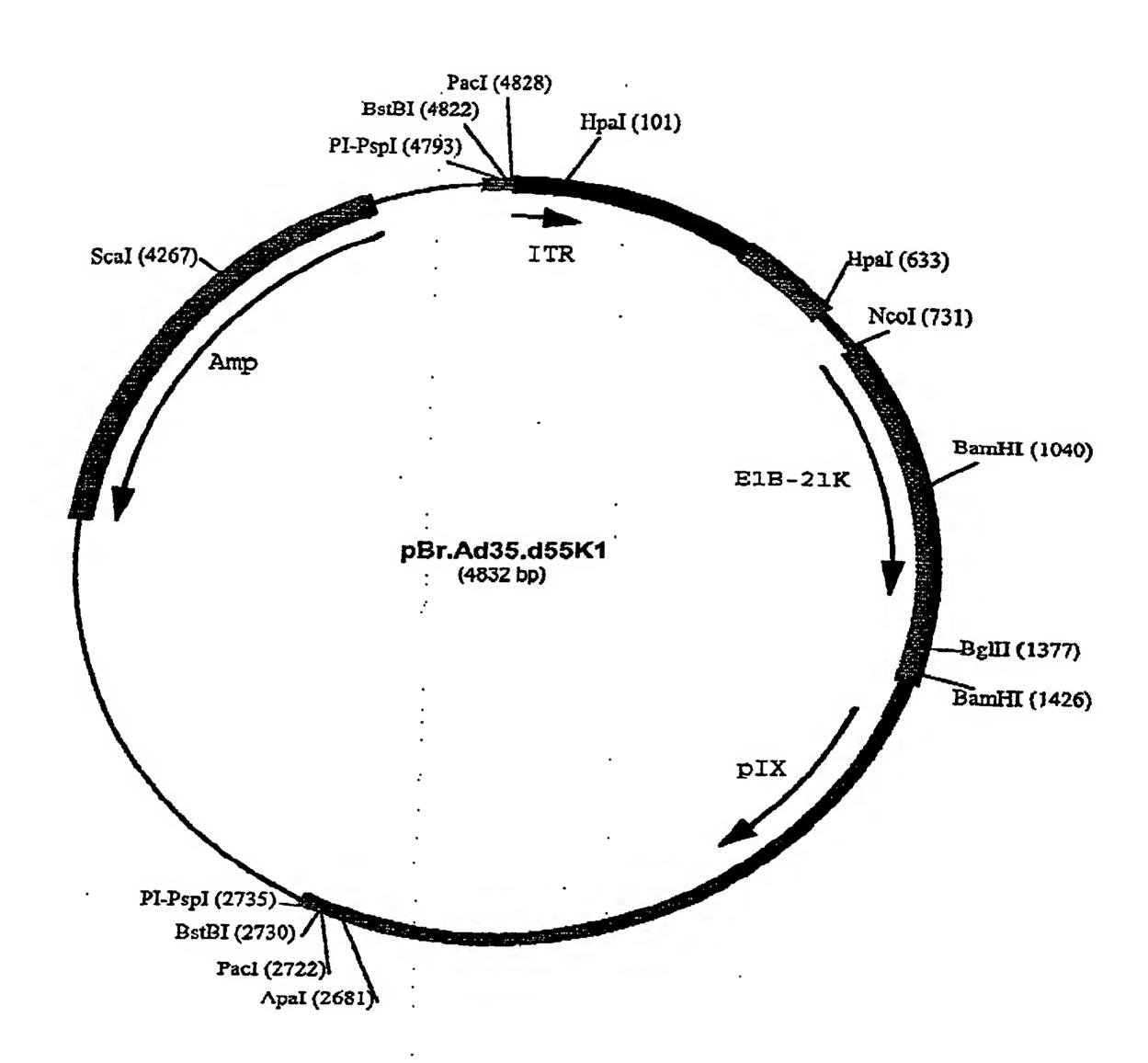


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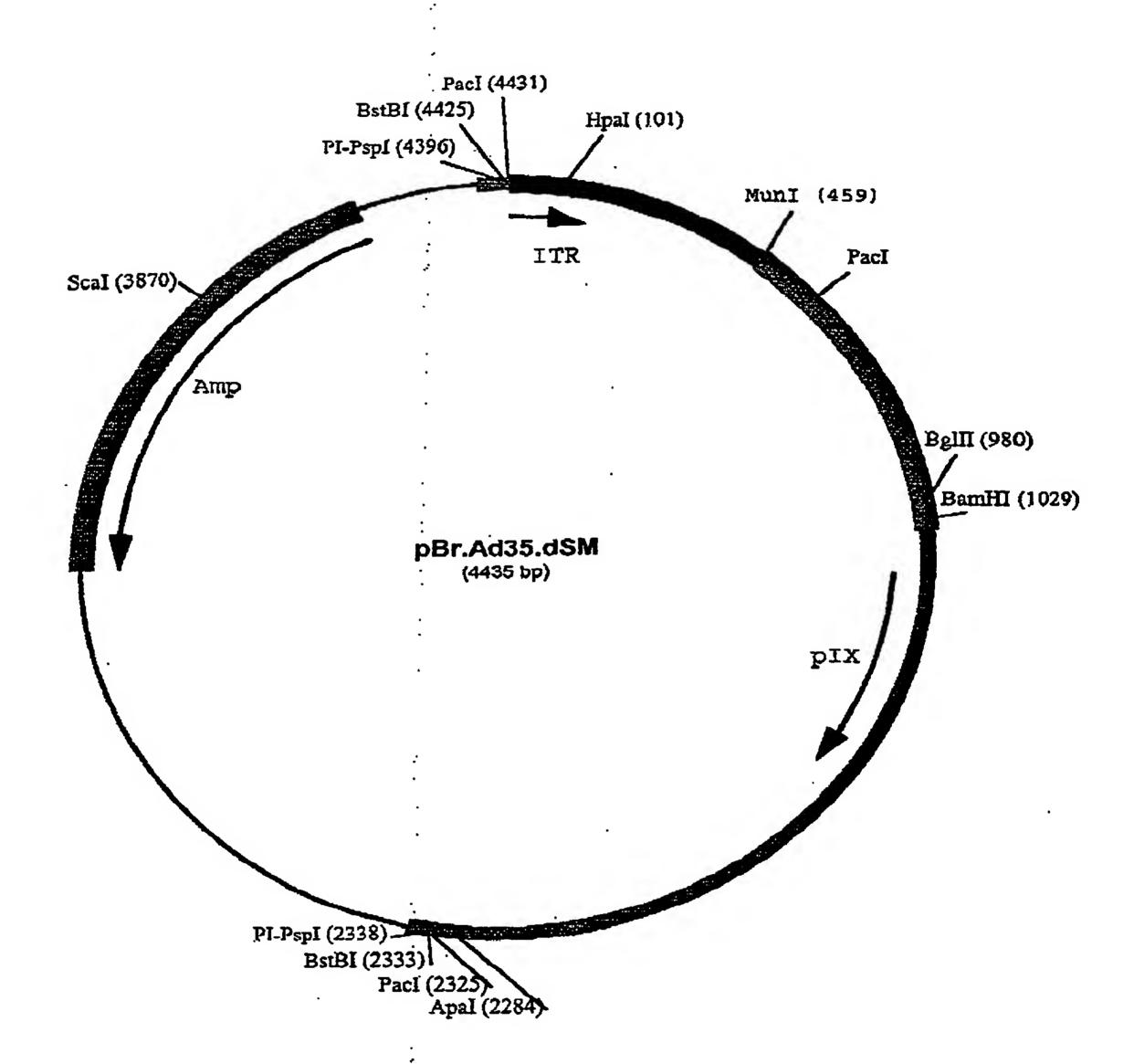


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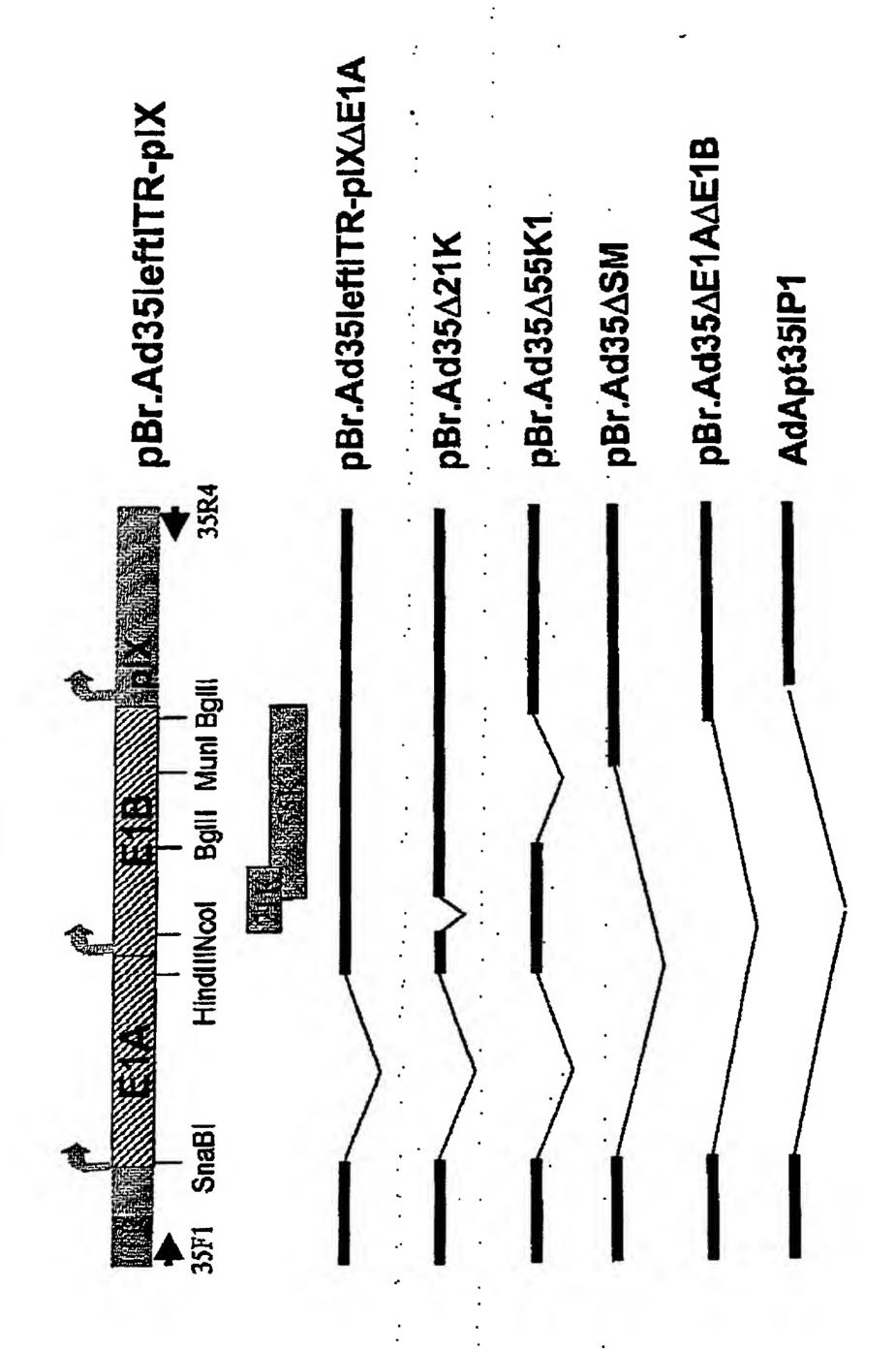


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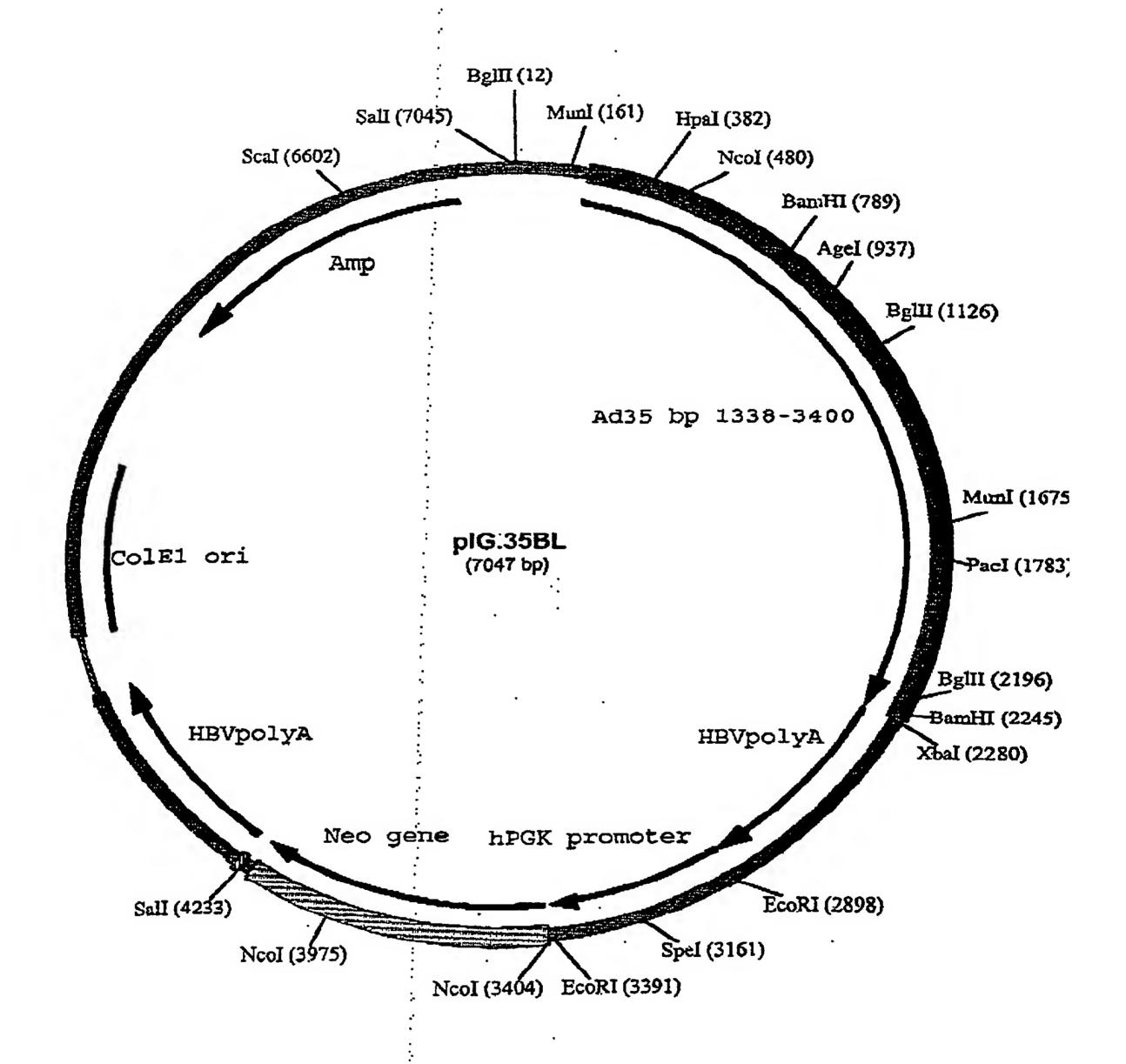


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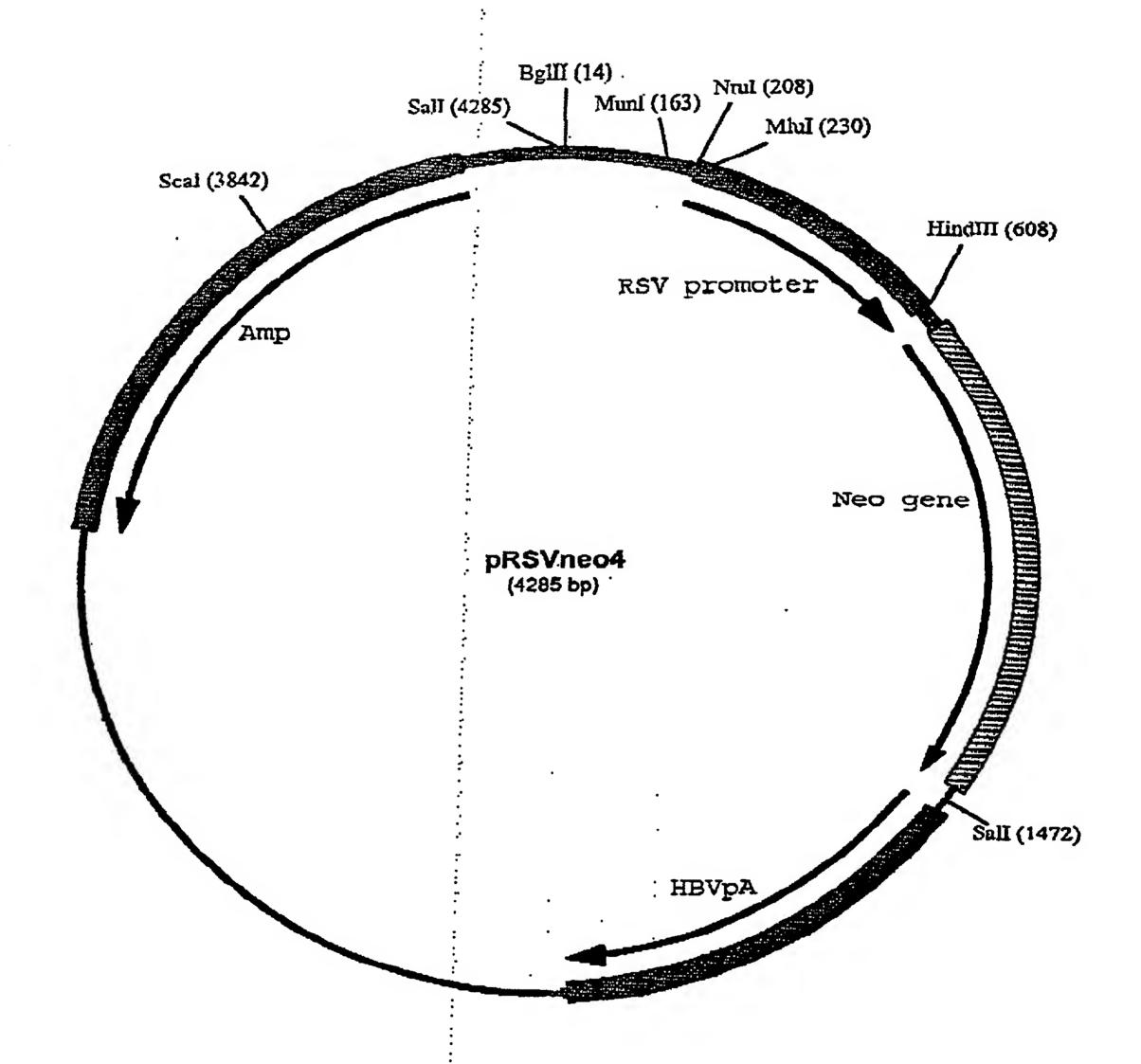


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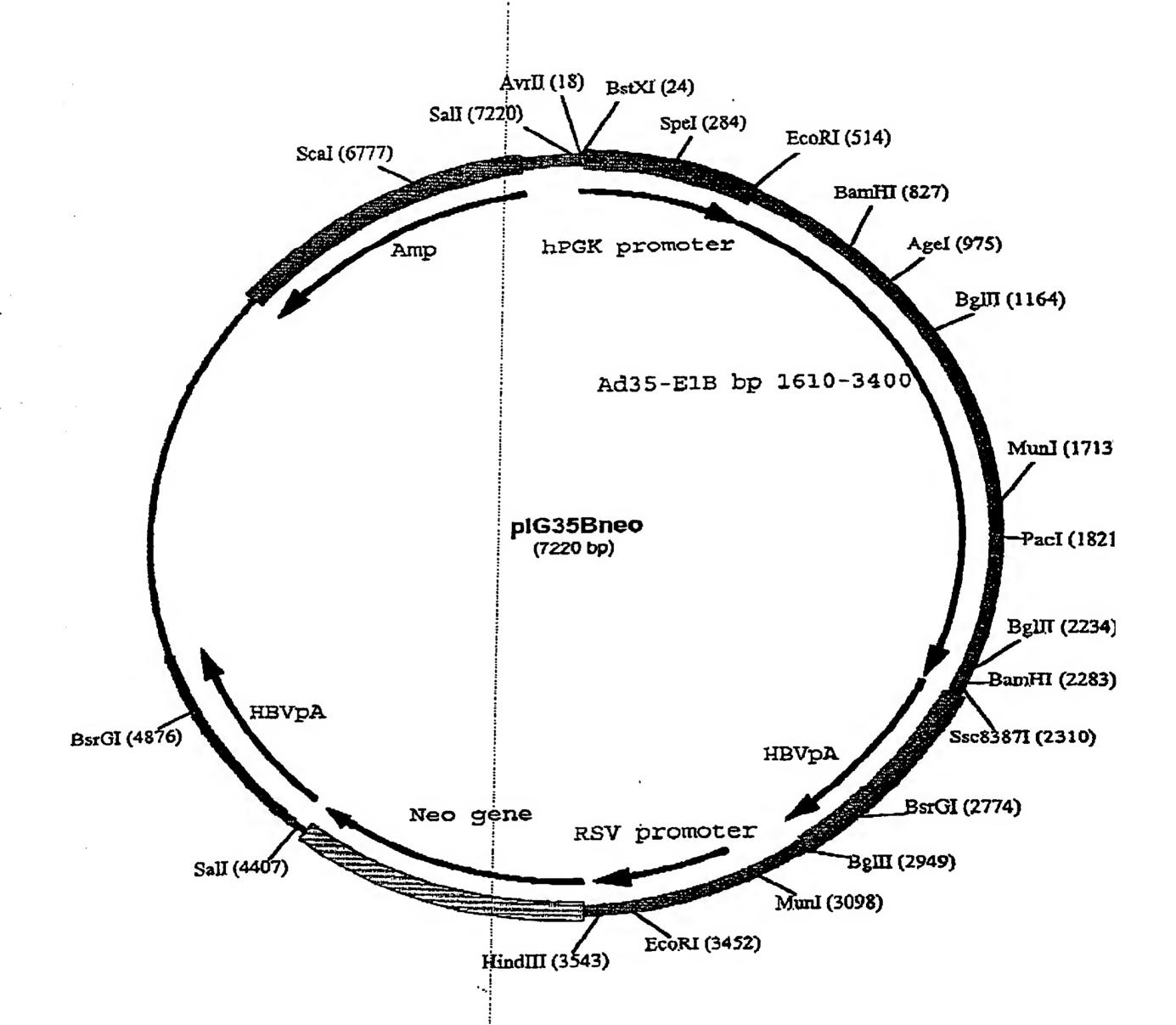


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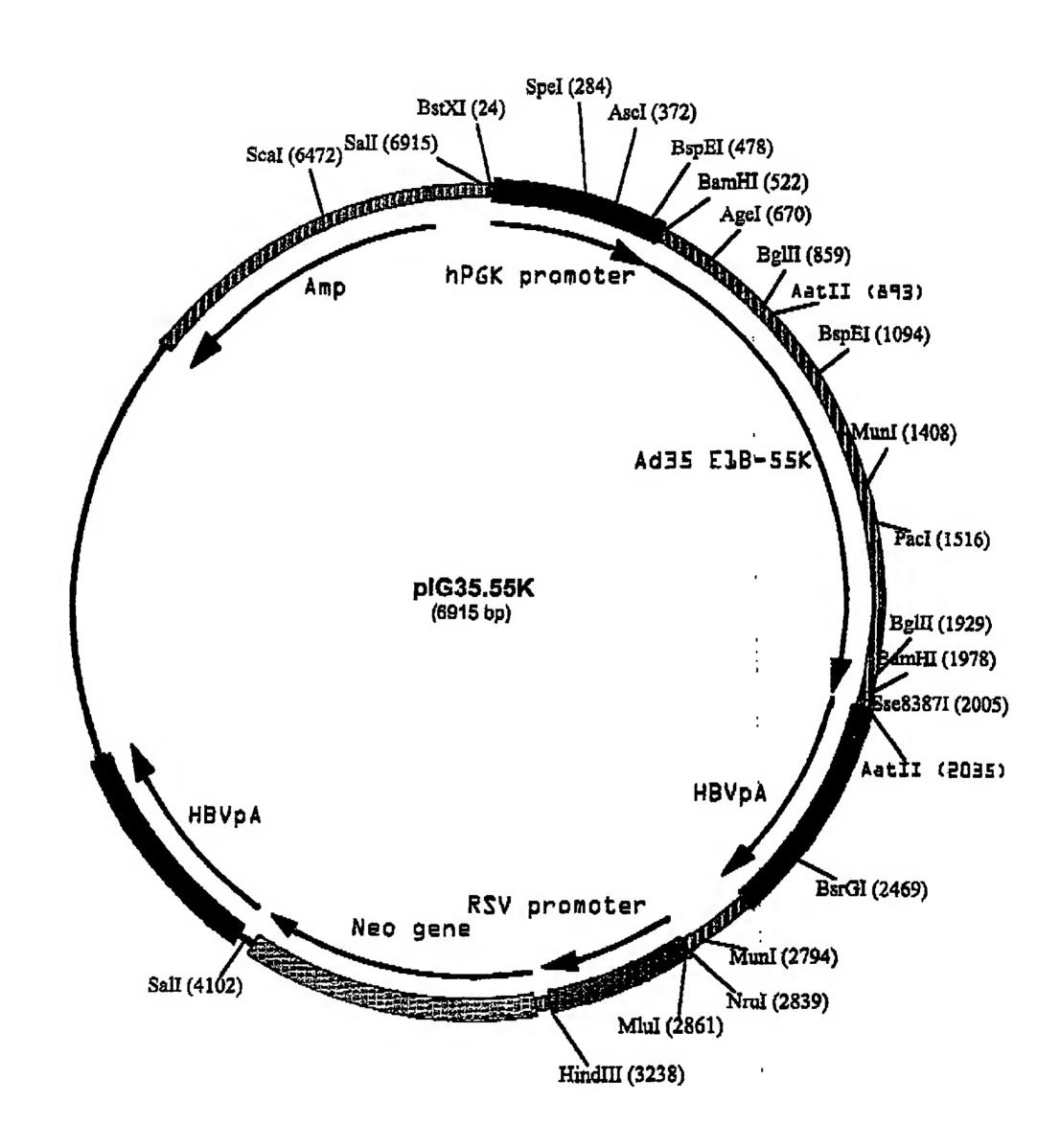
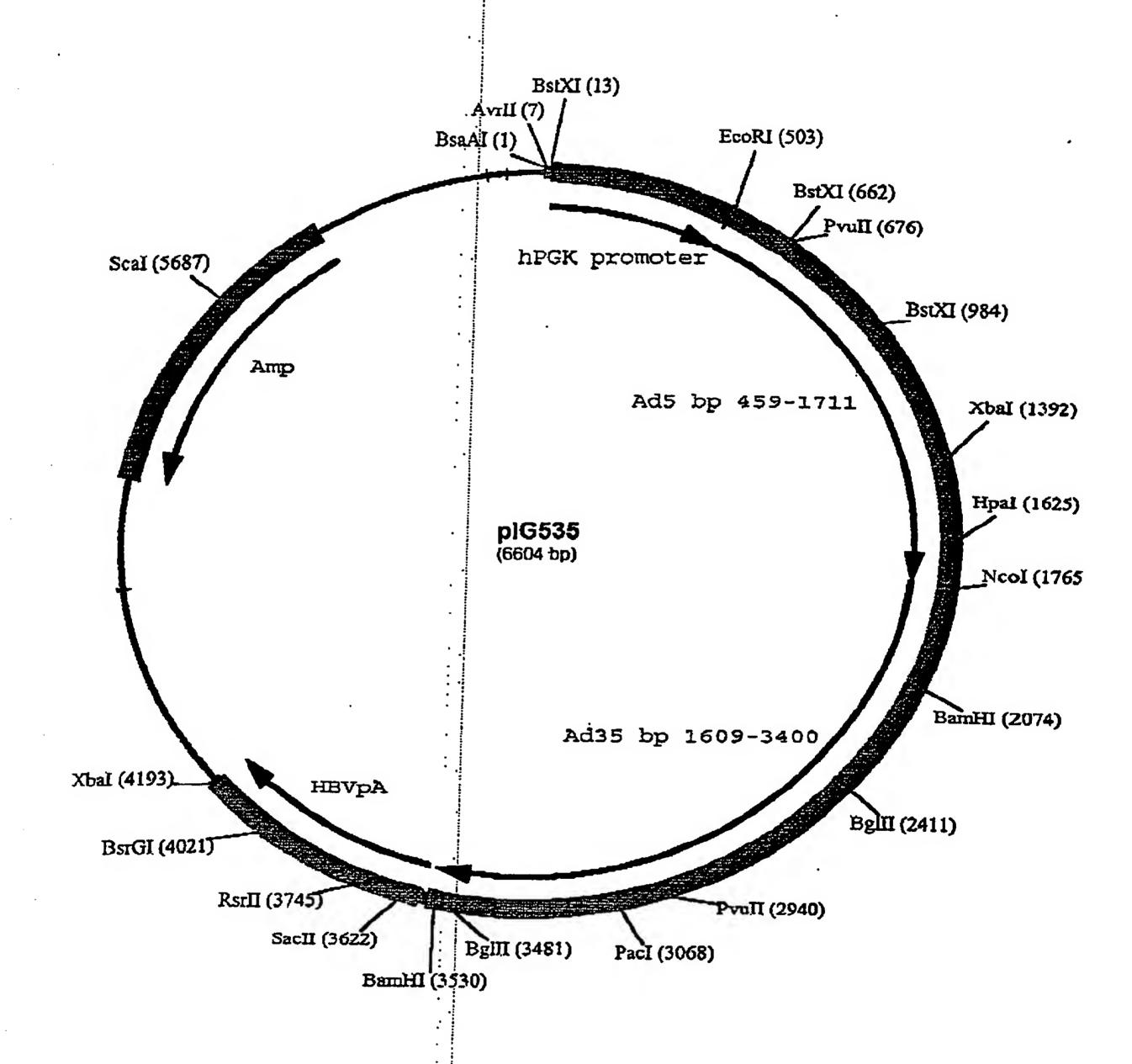
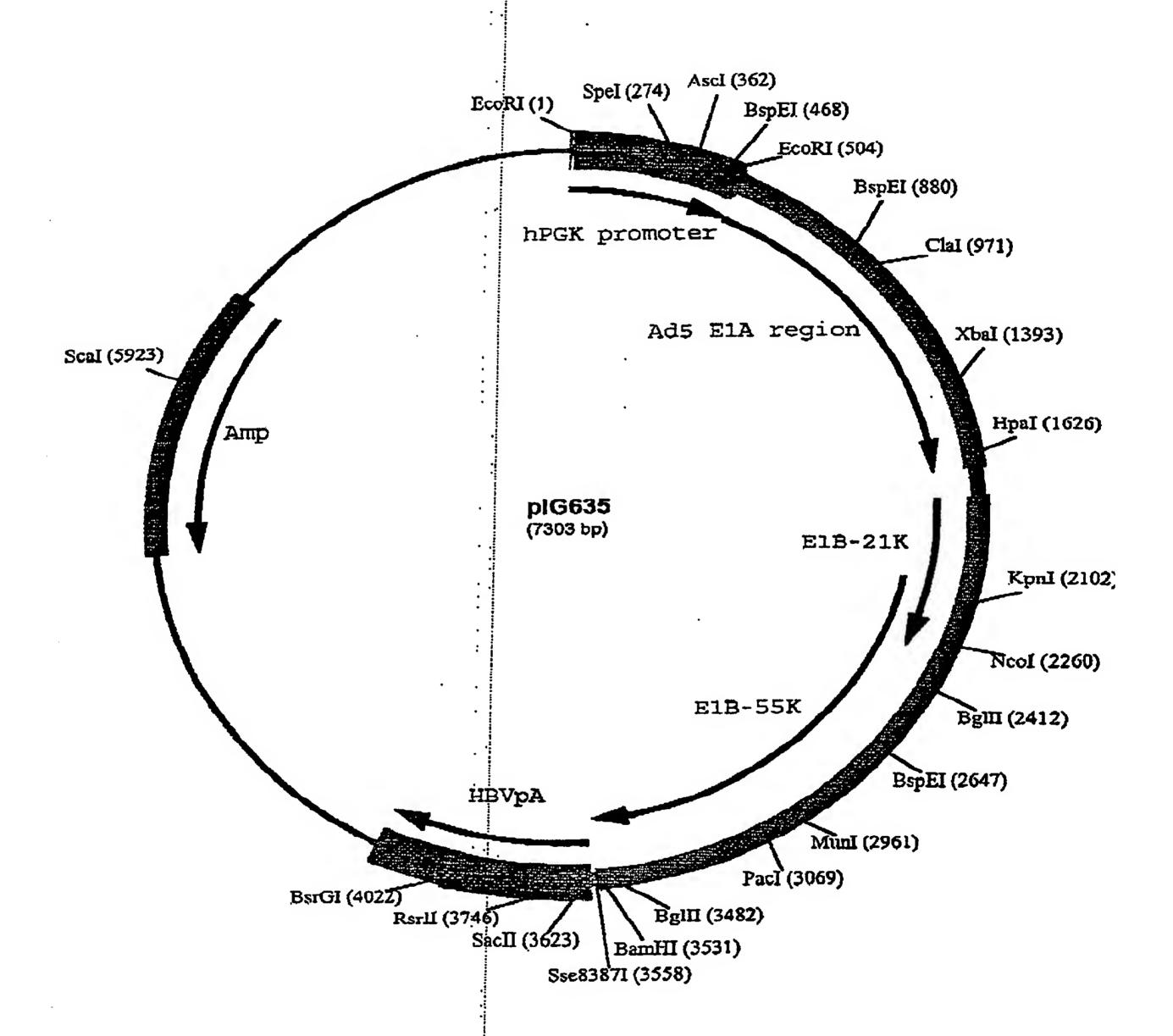


Figure 26







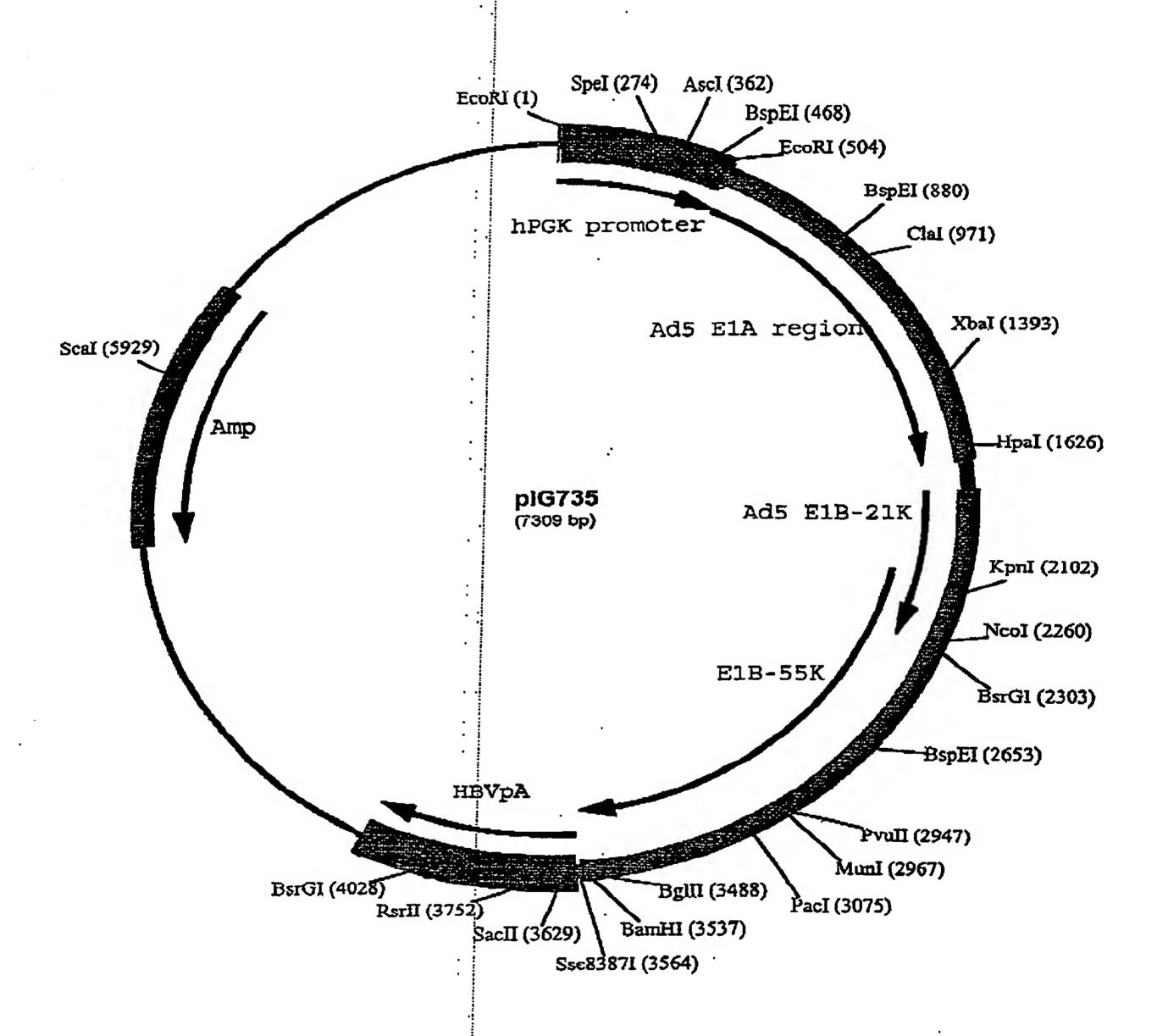


Figure 29

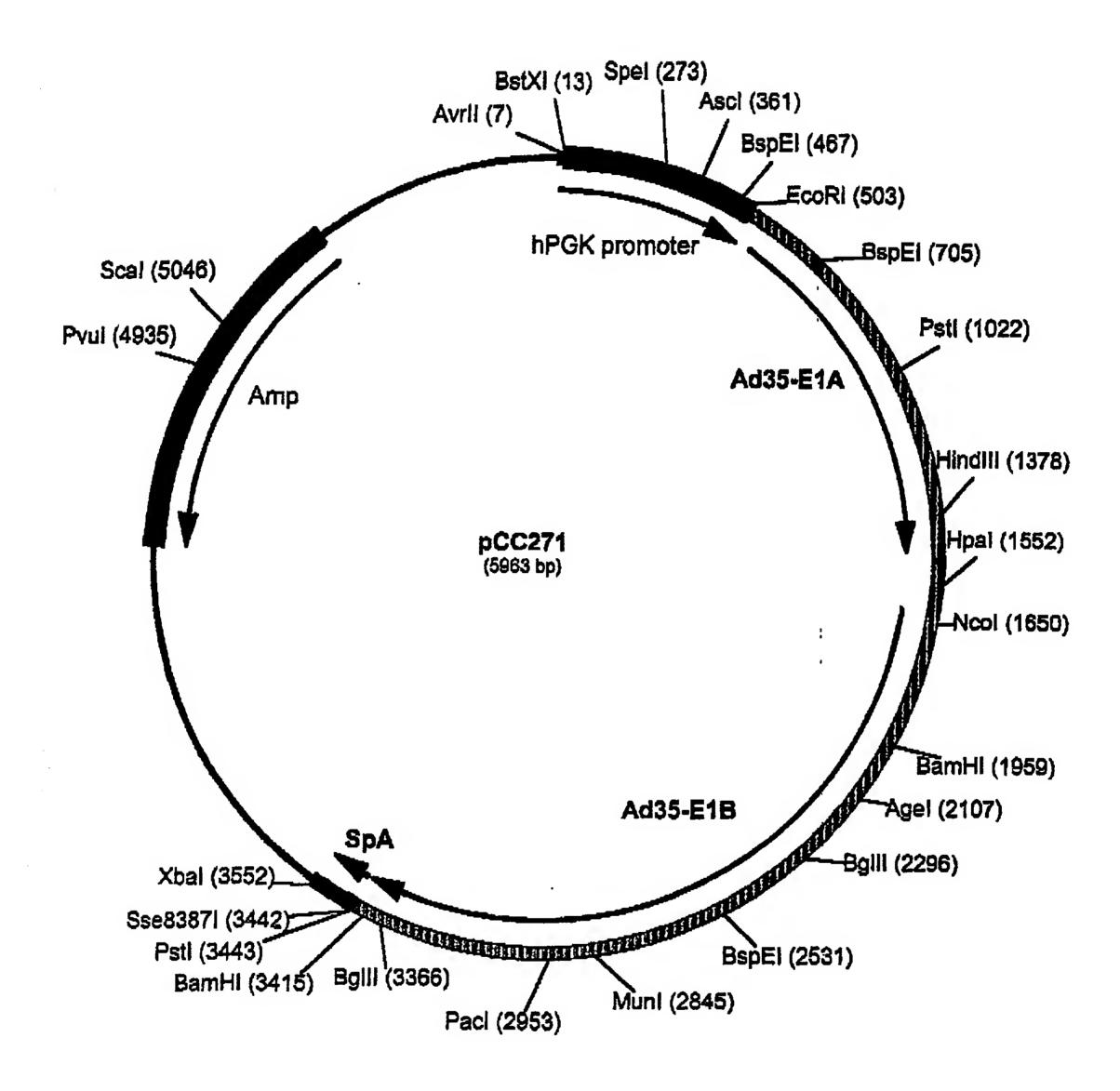


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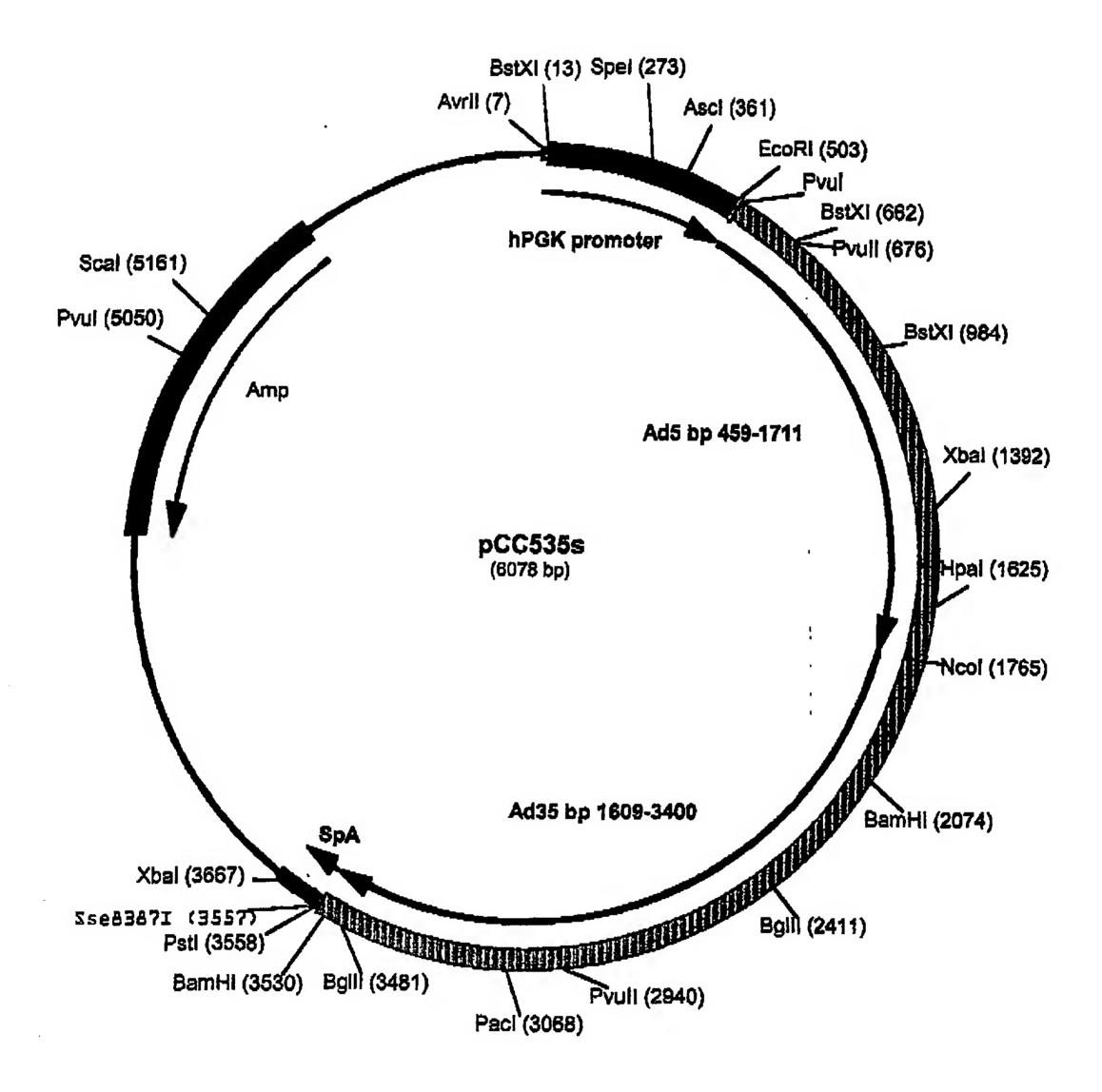


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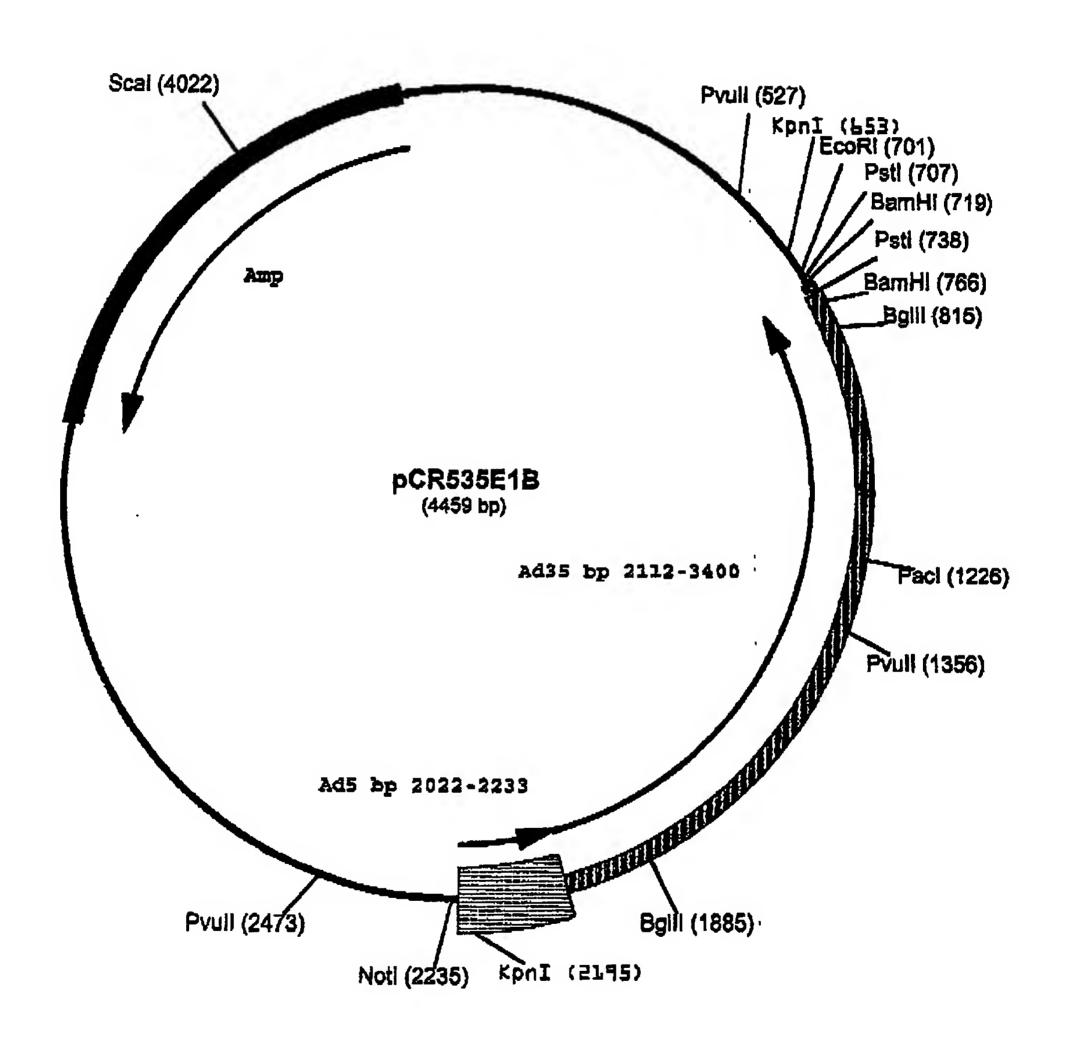


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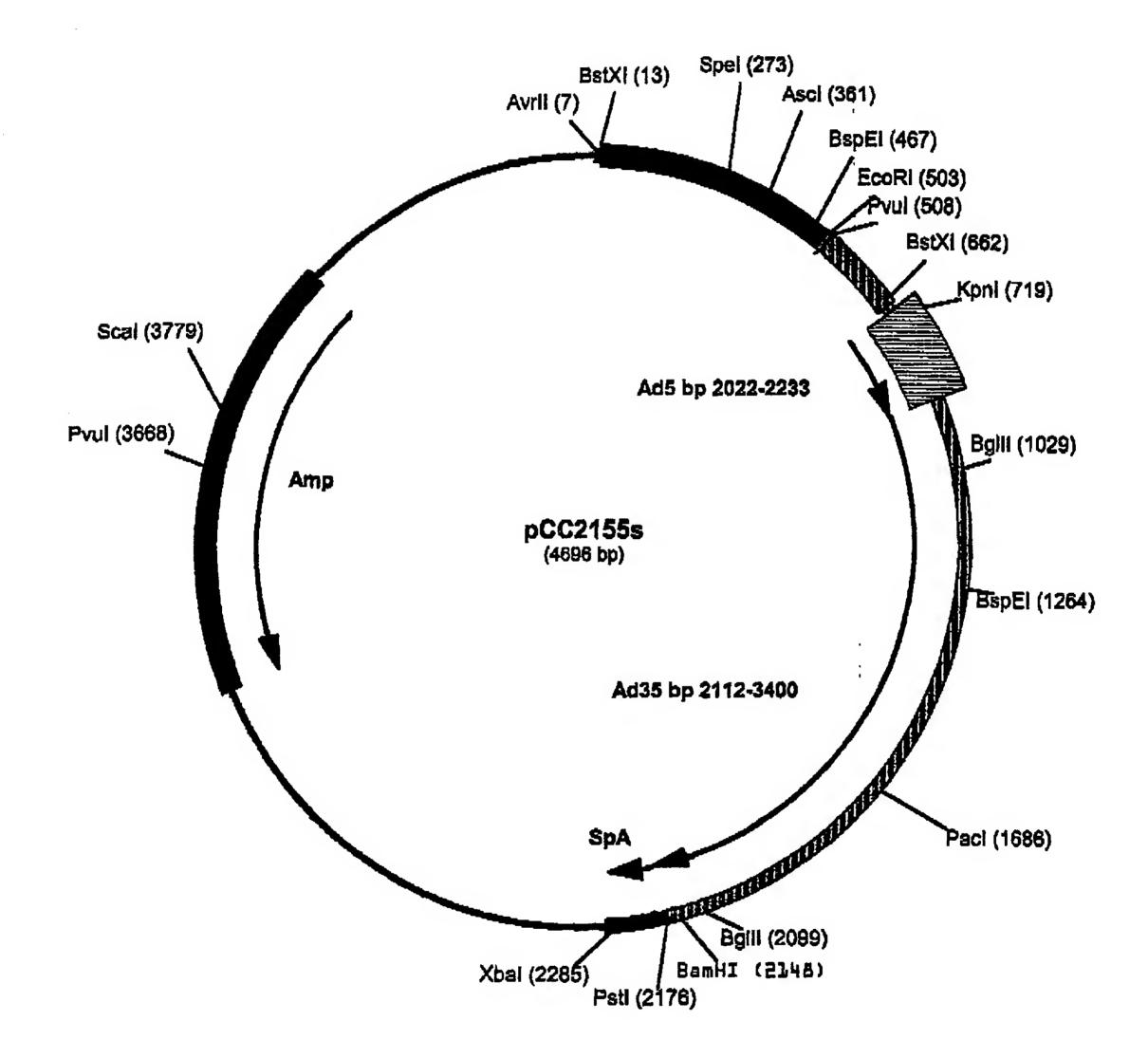


Figure 33

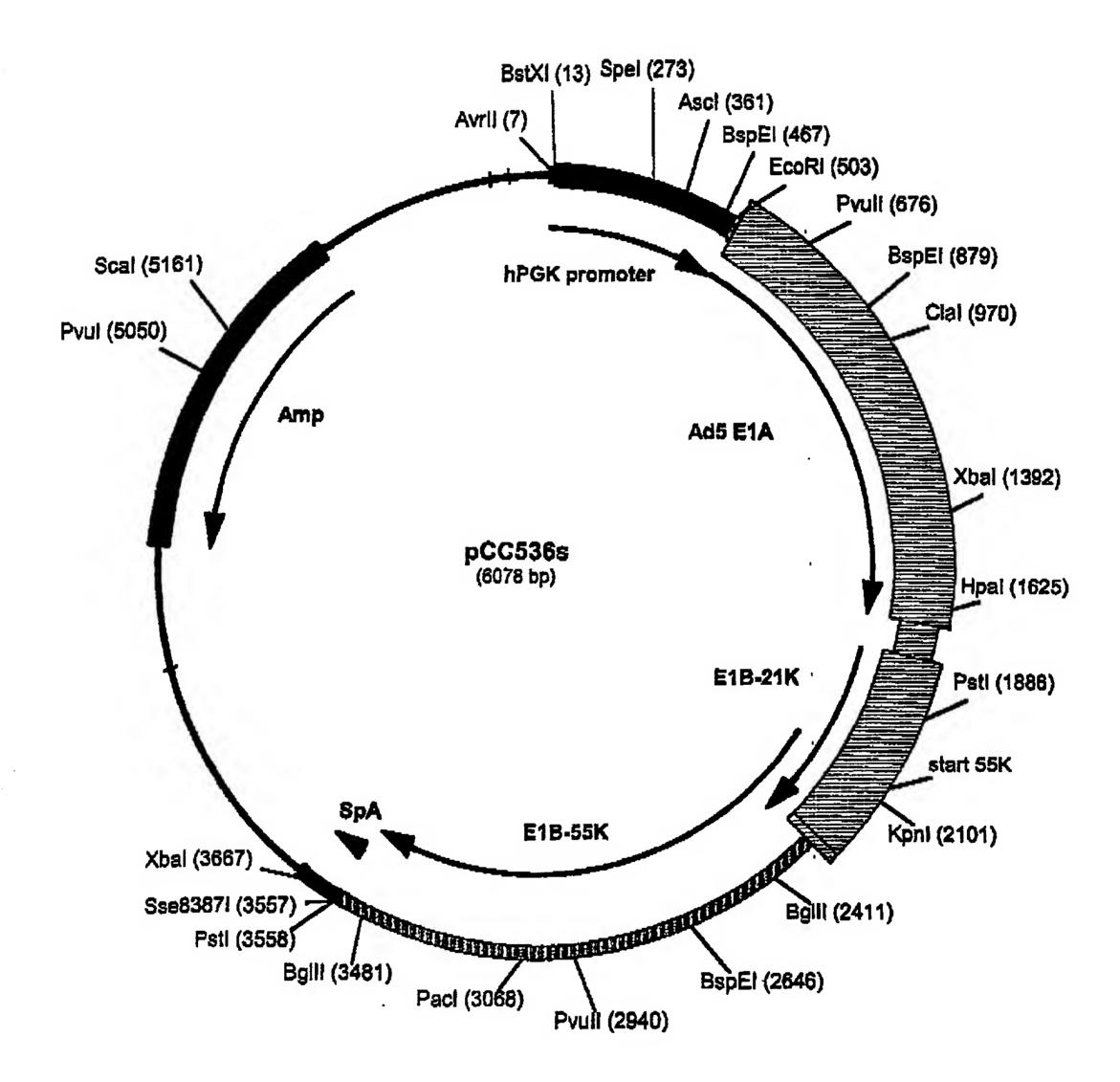


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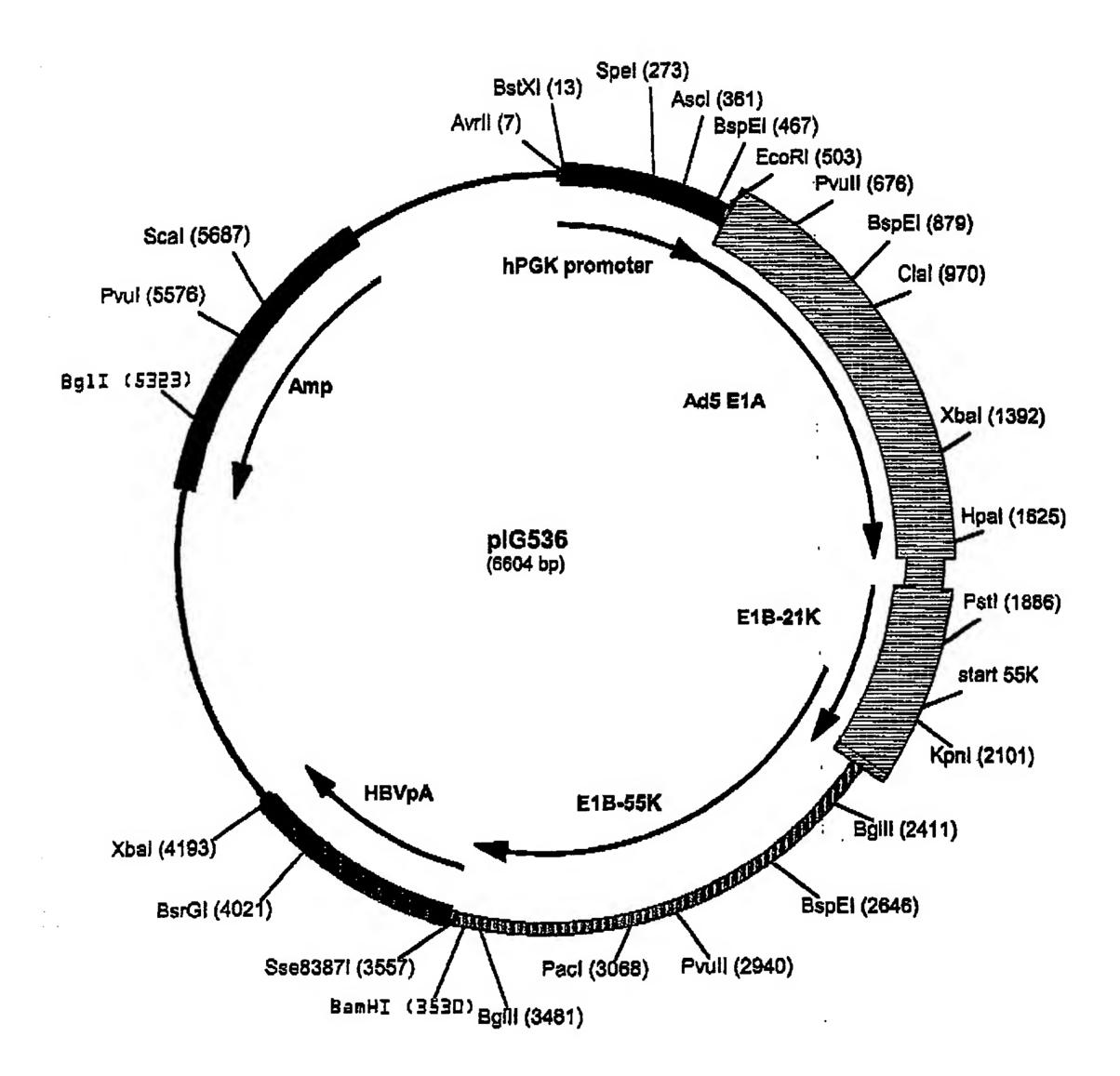
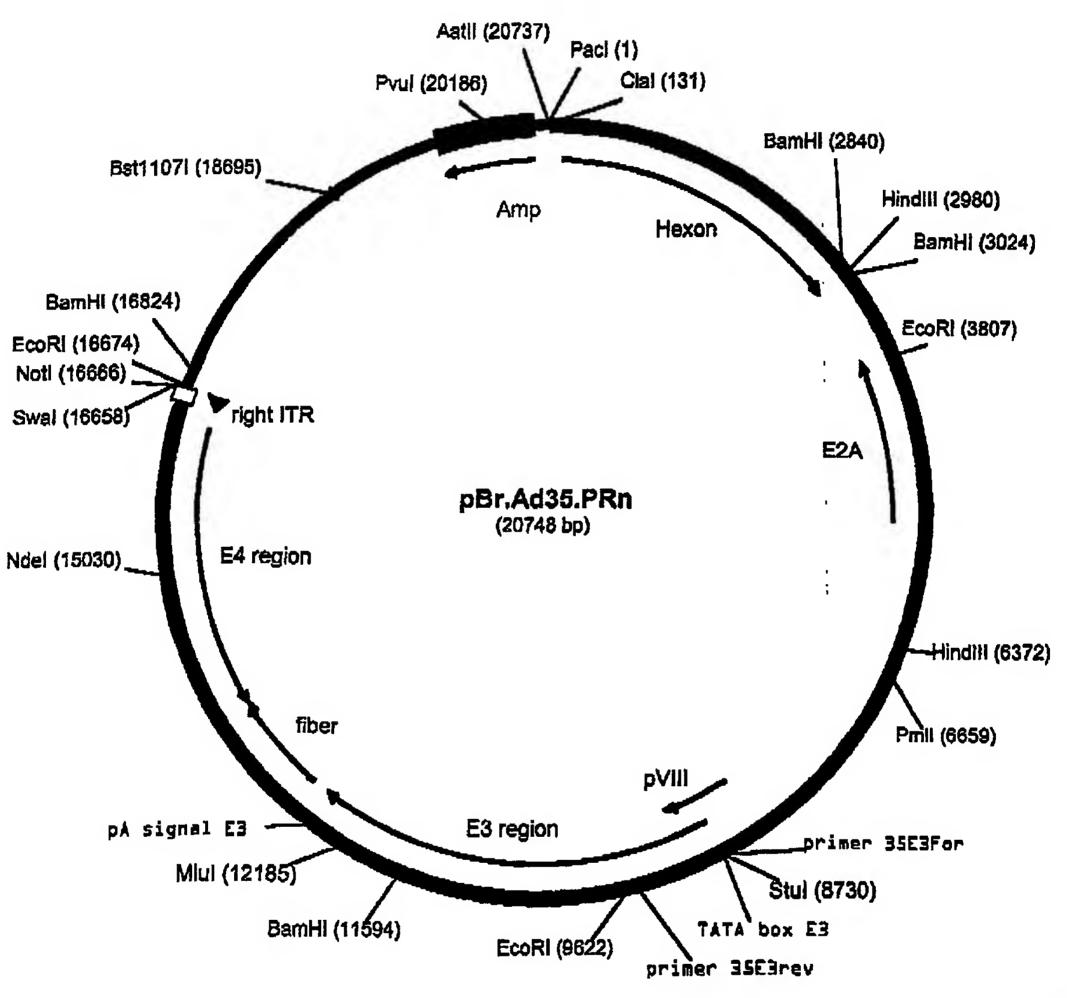


Figure 35



530

Figure 36

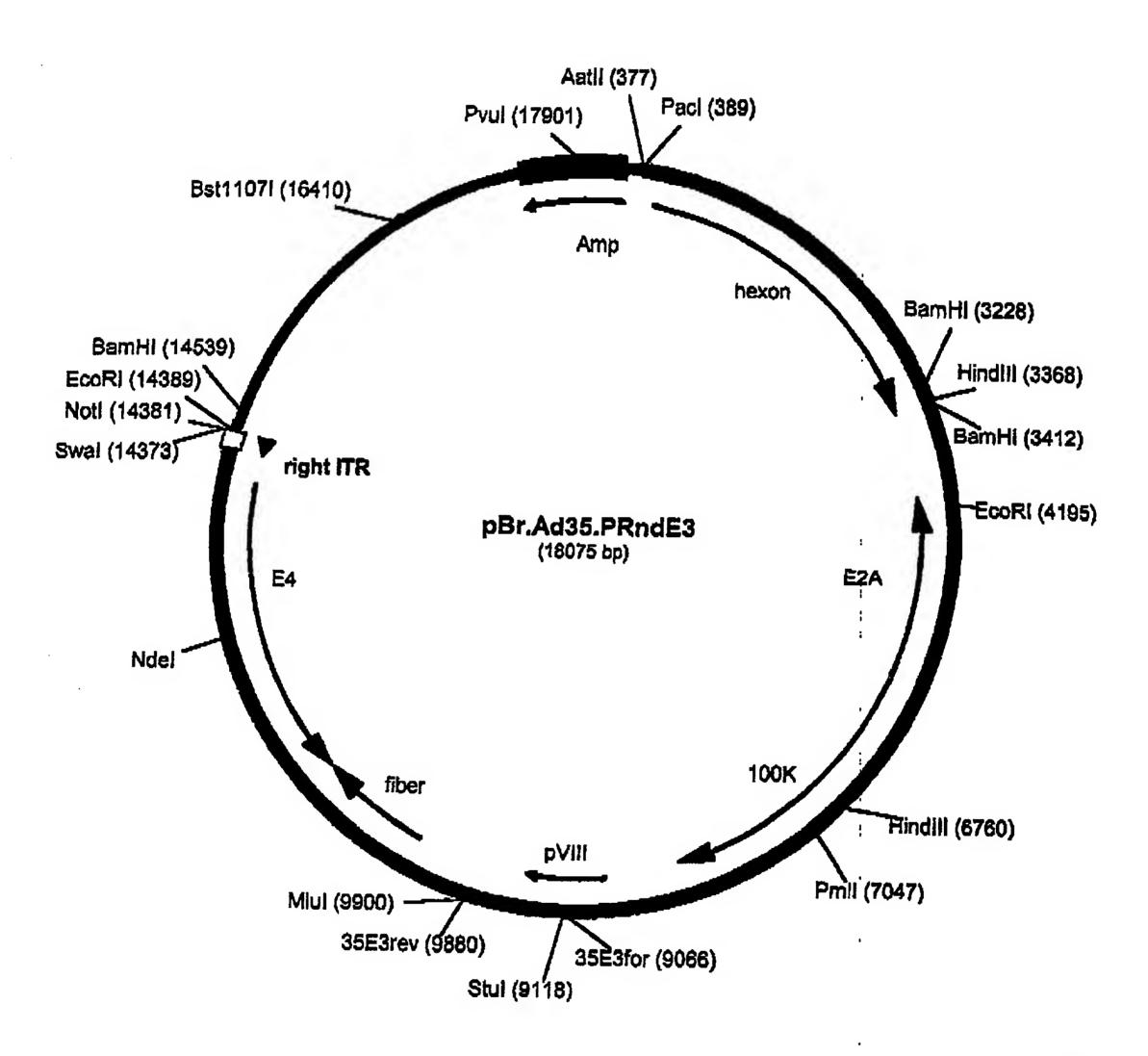


Figure 37

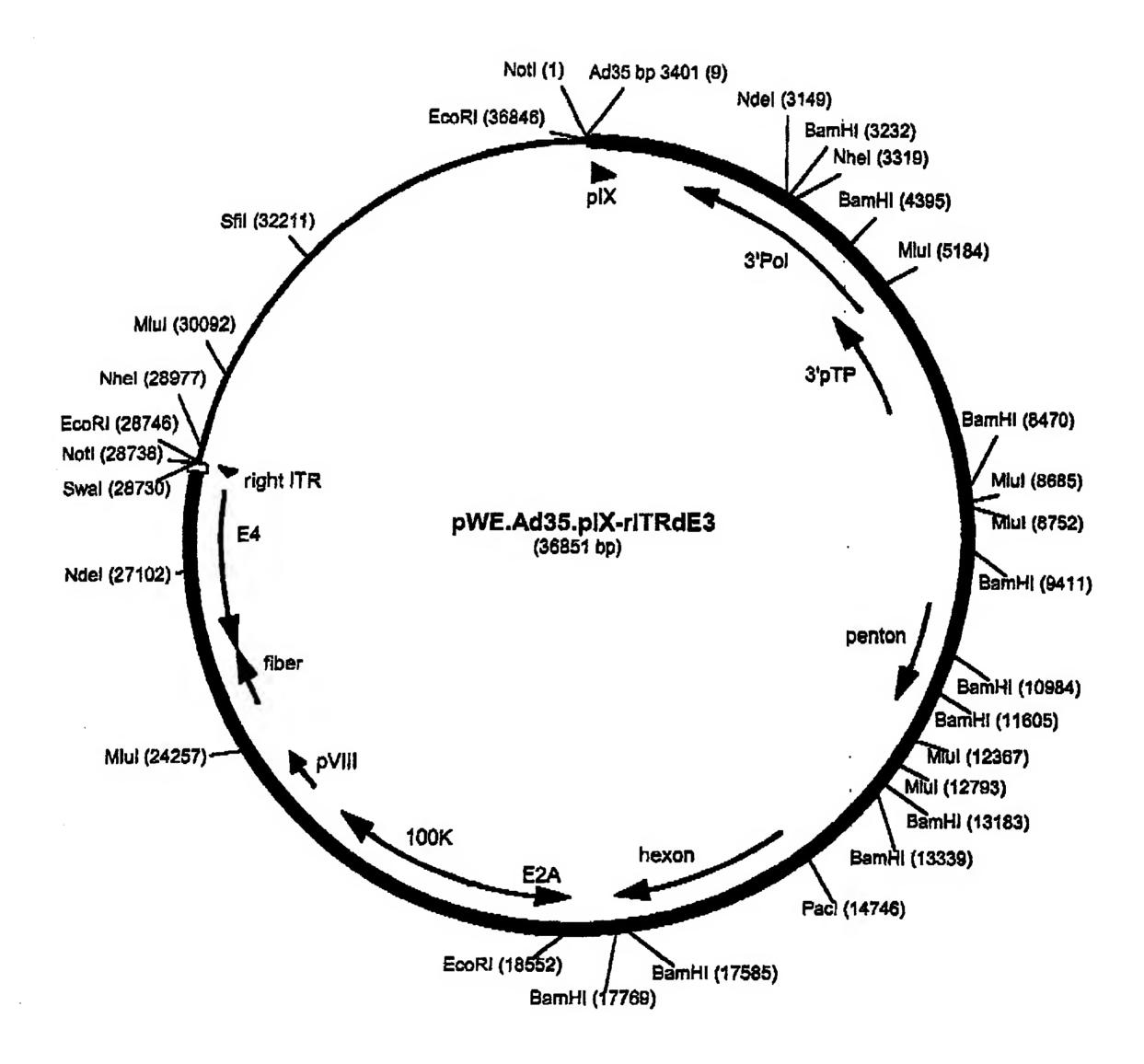


Figure 38 A: Alignment of E1B-21K sequences from pCC536s, wtAd35 and wtAd5

MILEQSSNSTBWFWRFLWGSSOAKLVCRIKEDYKWE Dilesossnstswfwfrhenssoaklvcrikebykwe Olibebasbgrwrfwfnskripurgs	LWLCHOALFORKVIKTLDFSTPGRAAAVAFLSFIK LNLGHOALFORKVIKTLDFSTPGRAAAVAFLSFIK	LOFLAMHLWRA-VVRHKNRLLLLSSVRPAIIPTEO LOFLAINHRA-VVRHKNRLLLLSSVRPAIIPTEO LOFIATALWRTKNRLLLLSSVRPAIIPTEO	SPRNPRAGLUPPVBRAE SPRNPRAGLUPPVBRAE BU-MPRAGLUPPVRBAR	that differ from the Consensus.
AWECLBDFSAVRHLLEQSSNST	WLGHOALFO	DFLAMHLW	SPENFRAGI	ration #1': Box residues that differ
VWALLEDFSAVRHLLEQSSNST	NLGHOALFO	DFLAMHLW	SPENFRAGI	
VWALLEDFSAVRHLLEGGG	NLGHOUHFX	DPLATALW	BD-BPRAGI	

Figure 38 B: Alignment of E1B-55K sequences from pCC536s, wtAd35 and wtAd5

PCC536s.55K.PRO Ad35.E18-55K.pro	MGE18-55K.pro pOC536s.55K.PRO Ad36.E18-55K.pro	AGNETB-56Kpm poc538s.55K.FRD Ad35.E18-55Kpm Ad5.E18-56Kpm	POCSSOS,SSIK.PRO Ad35.E18-55Kpm Ad5.E18-65Kpm	PCC536s.55K.PRO Ad36.E1B-55K.pro Ad5.E1B-55K.pro	PCC536s.55K.PRO Ad36.E1B-55K.pro Ad5.E1B-55K.pro	PCC538s.55K,PRO AKS6.E18-55K,pro Ad6.E18-65K,pro	pCCS36s.55K.PRO Ad35.E1B-55K.pro Ad5.E1B-56K.pro	DCC5368,55K.PRO Ad35,E1B-55K.pro Ad5,E1B-68K.pro
S G S G G	TSTGRDRGVKRERASS-GTDARSELA TSTGRDRGVKRERASS-GTDARSELA EDGGGLKGVKRERASS-GTDARSELA	LSLMSRRRPETIWWHEVOKEGRDEVSVLOEKYSLEOVKTCWLEPEDDWAVAIKNYAKIAL LSLMSRRRPETIWWHEVOKEGRDEVSVLOEKYSLEOVKTCWLEPEDDWAVAIKNYAKIAL FSLMTRHRPEGITFOOIKONCANELDLLAOKYSIEOLTTYWLOPGDDFEEAIRVYAKWAL	RPDKQYKISRRI NIRMACYISGNGAEVVI OT ODKTVI RCC MMD MWPGVVG MEAVTFVNVKRPDKOVKISRRI NIRNACYISGNGAEVVI DT ODKTVI RCC MMD MWPGVVG MEAVTFVNVKRPDCKYKISKLVNIRNGCYISGNGAEVEI DTEDRVAFRCSMI NAWPGVLG MDGVVI MNVR	FRGDGYNGIVFMANTKLILHGGSFFGFNNTCVDAWGQVSVRGCSFYACWIATAGRTKSQLFRGDGFNNFSORVSVRGCSFYACWIATAGRTKSQLFTGFNNTCVDAWGQVSVRGCSFYACWIATAGRTKSQLFTGFNFTGFNNTCVEAWTDVRVRGCAFYGCWKGVVCRPKSRA	SLKKCIFORCALGILMEGEARVRHCASTDTGCFILIKGNASVKHMMICGASDERPYOMLT SLKKCIFORCALGILMEGEARVRHCASTDTGCFILIKGNASVKHNMICGASDERPYOMLT SINKKCLFERCTLGILSEGNSRVRHWVASDCGCFMLVKSVAVIKHNMVCGNCEDRASOMLT	369 CAGGHCNMLATVHIVSHQRKKWPVFDHNVLTKCTMHAGGRRGMFMPYQCNMMHVKVLLEP 1899 CAGGRRGMFMPYQCNMMHVKVLLEP 1899 CAGGRRGMFMPYQCNMMHVKVLLEP 1899 CAGGRRGMFMPYQCNMMHVKVLLEP 1899 CAGGRRGMFMPYQCNMMHVKVLLEP 1819 CSOGNCHLLKTHHVASHSRKAMPVFEHNILTROSLHLGMRRGVFLPYQCNLSHTKILLEP 1	MSLTG1FDMNTQ1WKILRYDDTRSRYRACECGGKHARFOPVCVDVTEDLRPDHLV KSLTG1FDMNTQ1WX1LRYDDTRSRYRACECGGKHARFOPVCVDVTEDLRPDHLV VNLMGVFDMTMKVLRYDETRTRERPCECGGKHIRMOPVULDVTEELRPDHLV	

Dectablion 'Decoration #11'; Box residues that differ from pOC638s 55K PRO.